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A Double-Quality-Guaranteed (DQG) Renting Scheme For Service Providers

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ABSTRACT:
A fresh double renting scheme is proposed for service providers. It unites long-term renting with short-term renting, which can not only please quality-of-service requirements under the varying supplier for profit maximization is devise and two kinds of optimal solutions, i.e., the ideal solutions and the actual solutions, are get respectively. A series of contrast are given to confirm the performance of our scheme. The results show that the proposed Double-Quality-Guaranteed (DQG) renting scheme can realize more profit than the compared Single-Quality-Unguaranteed (SQU) renting scheme in the foundation of guaranteeing the service quality entirely

KEYWORDS: multi server system, profit maximization, queuing model, service-levelagreement, waiting time.

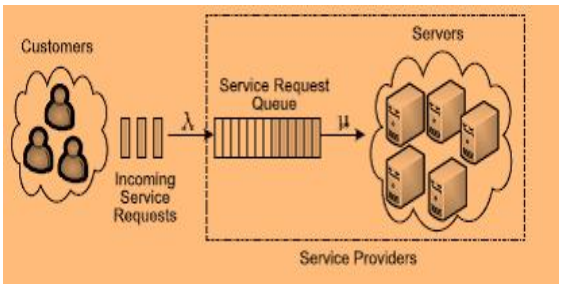
INTRODUCTION:
Factors moving the profit of service providers is customer satisfaction which is gritty by the quality of service and the charge. In order to perk up the customer satisfaction level, there is a service-level agreement (SLA)amid a service provider and the customers. The SL Aadopts a price compensation mechanism for the customers with low service quality. The machine is to agreement the service quality and the customer satisfaction so that more customers are concerned. As an helpful and efficient way to present computing resources and services to customers on demand, cloud computing has happen to more and more popular. From cloud service providers' perception, profit is one of the most important considerations, and it is principally strong-minded by the configuration of a cloud service platform under given market demand. However, a single long-term renting scheme is typically adopt to arrange a cloud platform, which cannot guarantee the service quality but leads to grave resource waste. In this paper, a double resource renting scheme is intended firstly in which short-term renting and long-term rentingare combined aiming at the existing issues.

LITERATURE SURVEY:
[1]We propose arrangements that assistance in the basic decision-making procedure to build assets usage and benefit. The outcomes show that the proposed strategies upgrade the benefit, use, and QoS (littler number of rejected VM asks for) in a Cloud league environment.
[2]We show a multicore server processor as a queuing framework with various servers. Our advancement issues are tackled for two distinct models of core speed, where one model expect that a center keeps running at zero speed when it is idle, and the other model accept that a center keeps running at a steady speed. Our outcomes gives new hypothetical bits of knowledge into power management and execution improvement in data centers.

PROBLEM DEFINITION:
A service provider payment a certain number of servers from the communications providers and builds different multi-server systems for different application domains. Each multi server system is to complete a special type of service requests and applications. Hence, the renting cost is comparative to the number of servers in a multi server system. The power consumption of a multi server system is linearly comparative to the number of servers and the server utilization, and to the square of execution speed. The proceeds of a service provider is related to the quantity of service and the quality of service

PROPOSED APPROACH:
We put forward a novel renting scheme for service providers, which not only can keep happy quality-of-service requirements, but also can gain more profit.A novel double renting scheme is proposed for service providers. It combines long-term renting with short-term renting, which can not only gratify quality-of-service requirements under the anecdotal system workload, but also diminish the resource waste greatly.

SYSTEM ARCHITECTURE:



PROPOSED METHODOLOGY:

INFRASTRUCTURE PROVIDER'S MODULE:

In an actual cloud computing platform such as Amazon EC2, IBM blue cloud, and private clouds, there are many work nodes managed by the cloud managers such as Eucalyptus, OpenNebula, and Nimbus. The clouds present resources for jobs in the form of virtual machine (VM). In calculation, the users offer their jobs to the cloud in which a job row system such as SGE, PBS, or Condor is used.

QUEING MODEL:

When the external service requests cannot be methodinstantly after they land, they are to begin with placed in the queue awaiting they can be handled by any available server. The first-come-first-served (FCFS) queuing discipline is adopted. since the fixed computing capacity of the service system is some degree of, some requests would wait for a long time before they are served.

DOUBLE RENTING SCHEME:

It combines long-term renting with short-term renting, which can not only satisfy quality-of-service requirements under the varying system workload, but also reduce the resource waste greatly. The Double-Quality Guaranteed (DQG) resource renting scheme combines long-term renting with short-term renting. The main computing capacity is provided by the long-term rented servers due to their low price.

ALGORITHM:

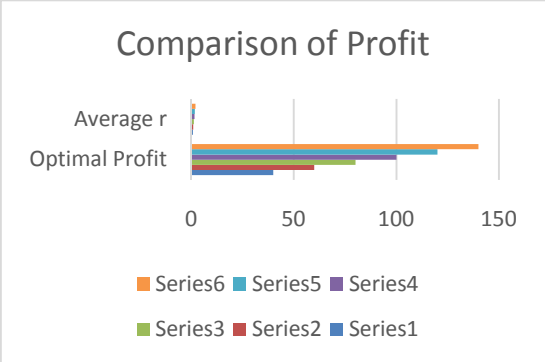
PAYMENT MINIMIZATION ERROR-TOLERENT ALGORITHM:

R=Execution Dimension,
Bk=Price Vector,
Rk=Resource Vector,
Lk=Workload Vector,
D=Deadline,
Ak=Available Vector

Input: D(ti); Output:execution node ps , r*(ti)

- Γ =Π, C=D (ti), r*=ϕ (empty set);
- Repeat
- rΓ* (ti , ps) = CO-STEP (Γ,c);
- on Γ*
- Ω = dk/ dk Є Γ &$rk(*)$ (ti , ps) > ak(ps)};
- Γ =Γ\ Ω/*Γ take away Ω* /
- C= C –θ $lkakdk\epsilon\Omega$ /* Update C* /
- r* (ti , ps) = r* (ti , ps) U ($rk(*)$ = ak(ps)|dk Є Ω& ak(ps)
- is dk ≦s upper bound};
- until (Ω =ϕ);
- 'r* (ti , ps) = r* (ti , ps) U rΓ* (ti , ps)
- end for
- Select the smallest p(ti) by traversing the candidate solution set;
- Output the selected node ps and resource allocation r*(ti,ps);

RESULTS:



According to the calculation,our scheme can obtain 4.17 percent more profit on theaverage than the SQU renting scheme. This shows that ourscheme outperforms the SQU renting scheme in terms ofboth of quality of service and profit.

CONCLUSION:

Novel Double-Quality-Guaranteed (DQG) rentingscheme for service providers. This method combinesshort-term renting with long-term renting, which can decreasethe resource waste greatly and become accustomed to the dynamicaldemand of computing capacity. The optimal solutions are solved for two differentsituations, which are the ideal most favorable solutions and theactual optimal solutions. In totaling, a series of calculationsare demeanor to contrast the profit obtained by theDQG renting scheme with the Single-Quality-Unguaranteed(SQU) renting scheme. The results show that our schemeoutperforms the SQU scheme in terms of both of servicequality and profit.

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