

AN ENHANCED REVERSE AUCTIONING APPROACH FOR DYNAMIC RESOURCE PROVISIONING IN CLOUD COMPUTING

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Abstract— Every user of the Cloud required to access services provided by various service provider for one or other reason every day. This usage required focus related to various issues like efficient resource provisioning, SLA Violation choosing proper provider who offered better services in cheapest price Etc. If not manage resources provision properly then it may break the trust of Customer towards Cloud providers and so there are many provisioning techniques viz. Static Provisioning, Dynamic provisioning are available. Secondly for the Cloud providers Resource provisioning mechanisms must follow some SLAs (Service Level Agreements) in order to abide by customers demand properly. Third issue is about how to get service form the trustworthy provider only from the various available providers. This three issue solved using a Dynamic provisioning, checking SLA Violation for each allocation and Reverse Auctioning respectively. So based on above different burning issues our aim is to propose methodology which not only focus on one dimensional work but provides complete solution which helps customer as well Providers to efficiently work in Cloud environment.

Keywords —Cloud Computing, Auction, Reverse-Auction, SLA Violation

I. INTRODUCTION

“Cloud computing refers to the web-based computing, providing users or devices with shared pool of resources, information or software on demand and pay per-use basis”. It allows end user and small companies to make use of various computational and distributed resources like storage, software and processing capabilities provided by other companies such as Amazon or Microsoft. Cloud Services provided by the clouds are broadly divided into three categories: Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS) and Software-as-a-Service (SaaS).

Infrastructure as a service (IaaS):In the IaaS model computers are offered as physical or as virtual machines, and other resources.

Platform as a service (PaaS):In the PaaS model, cloud providers offers computing platform including operating system, programming language execution environment, database, and webserver. Without buying and managing hardware and software on a cloud platform.

Software as a service (SaaS):In the SaaS model, cloud providers install and operate application software in the cloud and cloud users access the software from cloud clients.

Auction can be referred as a market mechanism with set of rules that determine prices and resource provision from different participants. Auction mechanisms have recently attracted basic attention as an efficient approach to pricing and allocating resources in cloud computing.

Reverse Auction method is typical auction. In Auction, there are one seller and multiple buyers. As for Reverse Auction, there are multiple Sellers and only one buyer. Reverse auction is used to prevent the occurrence of trading fraud and achieve dynamic pricing and automatic procurement.

II. RELATED WORKS

In this paper[1] Author's focused on pricing strategy used in cloud resource allocation mechanism. They proposed Dynamic Pricing allocation method over Fixed pricing allocation for improve resource provider competitive. With this proposed and evaluated mechanism will able to achieve better utilization of resource ,shorter completion time as well as lower monetary cost.

In this paper, [2] authors Try to resolve the problem of unused resource utilization by trading.

The proposed mechanism used the Adaptive strategy with the help of resource overbooking and resource pooling. And the prime focus of work is to trade the unused cloud computing resources through reverse auction.

Author [3] proposed, to get the benefit of on growing social network as new provision called social cloud which is primly based on the relationship included in the social network. The proposed model is based on reverse auction ;for which author's described model CRA provision which ultimately well for the procurement cost and average utilization.

In this paper[4], The Author's proposed the first online combinatorial auction for the dynamic resource provisioning in cloud computing. They proposed framework which describe in various steps and consist of different component. Which an ultimately produce better competitive ratio and this first provision advance the cloud auction design for the VM Market.

The given paper [5] describe the strategy for using alternative auction based mechanism; dynamic to sell the residual computing capacity over the fixed priced and direct selling method.

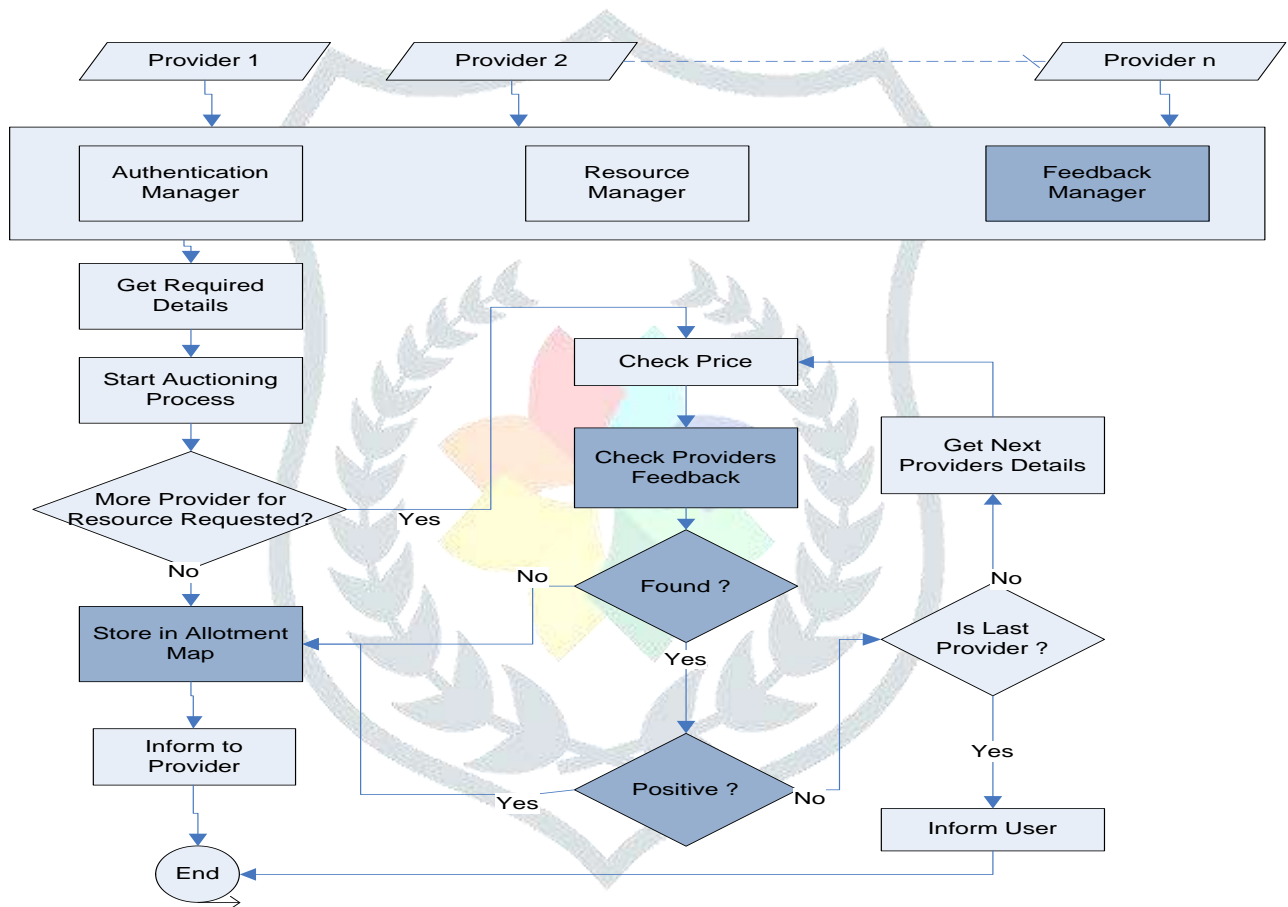
In this paper they proposed to trade the capacity on any procurement market open to participation of any provider. The given method is convenient for both the provider and the consumer of cloud resources.

This paper [6] describe the reverse auction based allocation mechanism in the clod computing and take this issues by introducing microeconomic methods into the resource management and allocation with the help of batch matching and reverse auction. The simulation shows the improving in market efficiency and resource utilization.

III. PROPOSED METHODOLOGY

Algorithm 1:

- Step 1:- user send request and provider send details
 Step 2:- get require detail
 Step 3:- Start auction process
 Step 4:- check one or more provider which satisfy requested resources
 Step 5:- if (more provider available) than continue else go to step11
 Step 6:- check price of provider
 Step 7:- check provide feedback
 Step 8:- if found than continue else go to step11
 Step 9:- if feedback is positive than go to step 11 else continue
 Step 10:-if is last provider inform the user and go to step 13 else
 Step 11:- store into allotment map
 Step 12:- inform to provider and user
 Step 13: End process



CONCLUSION

From all the above analysis we can conclude that in the proposed framework...

- Allotment of resource from multiple provider to the user.
- Feedback based allotment support quality of services from provider to user.
- Find suitable resource from multiple resource from multiple provider and allocate to user.
- This increase overall utilization and trust level of user towards cloud .

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