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## Cost Effective Online Provisioning and Scheduling for Cloud Computing

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**ABSTRACT:** Cloud service provider as Information as a service (IAAS) offer many pricing strategies for brokers and customers. As the increase in the usage of the computational resources the cloud service providers attract the customers by providing the diverse pricing schemes. The customers get benefit from the providers as they get what exactly they need..Thus it nurtures the market of cloud brokers. Multiple customers can access and request for a broker's i.e. the interface. OSA i.e. Online Scheduling Algorithm with a positive, non-decreasing and concave cost function. OSA is a Job requests with a large variety of resource requirement. The job requests submitted by different user's exhibit different patterns in term of inter-arrival time and job length. It can be schedule for different user in anytime. Reducing cost low based on time instant. ROSA i.e. Randomize Online Stack Centric Scheduling Algorithm Achieves a competitive ratio close to the theoretical lower bound under the special cases.

**KEYWORDS:** Cloud service provider, IAAS, concave cost function, Inter-arrival time, OSA, ROSA.

### I.INTRODUCTION

Now-a-days there is a large increase in cloud computing ,As a result the cloud service providers have increased a lot to provide various resources for the users in the beneficial way . Various public cloud providers like Huawei cloud service , Microsoft windows azure[9],Rackspace,Ready space have been developed in a rapid way. To provide only required amount of resources for the customers the IAAS(Infrastructure As A Service) provides brokers as mediators between the cloud service providers and the customers to provide the resources for customers quickly [2],[5] .Here the customers pay for what they use ,pay less for unit ,pay as u go . The cloud service providers provide discounts to attract the customers .The brokers take a bulk amount of resources and provides the resources to the customers as much as they require for e.g. windows azure [9] provides 20%discount to the customers spending \$25,00 or above on reserved instances and 15% discount for customers spending \$20,000 or above. By temporal multiplexing the broker takes advantage of providers hourly billing cycles to use a customer's unused resource for executing other customers task [6].The goal is to maximize resource utilization so that more customers can be accommodated and each can pay less .When being offered with volume discount from a cloud service provider, end customers, be willing to adjust the execution speed of their jobs ,especially those time-flexible and interruption tolerant task, so that the higher discount can be enjoyed due to the higher amount of total requested resources of the jobs from a group of customers.

### II.RELATED WORK

All of the theoretical speed scaling research to date has assumed that the power function, which expresses the power consumption  $P$  as a function of the processor speed  $s$ , is of the form  $P = s^\alpha$ , where  $\alpha > 1$  is some constant.Motivated in part by technological advances, we initiate study of speed scaling with arbitrary power functions. We consider the problem of minimizing the total flow plus energy. Our main result is a  $(3+\epsilon)$ -competitive algorithm for this problem,

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that holds for essentially any power function. We also give a  $(2+\alpha)$ -competitive algorithm for the objective of fractional weighted flow plus energy. Even for power functions of the form  $s_\alpha$ , it was not previously known how to obtain competitiveness independent of  $\alpha$  for these problems. We also introduce a model of allowable speeds that generalizes all known models in the literature.

## III. EXISTING SYSTEM

### EXISTING CONCEPT:-

- Existing schemes can the lack of convexity in the cost function invalidates all existing solutions such those in. Note that linear programming (LP) with rounding approximation is commonly used for constrained optimal job scheduling problems. It demonstrate that by proving properties of optimal solutions, elegant scheduling algorithm can be found when finding an appropriate LP solution is hard.

### DRAWBACKS:

- Formulate the concave cost job scheduling problem.
- At any time instance, the number of scheduled jobs is limited by a constant.
- Any time instant, to reflect the case that the execution of a task cannot be further accelerated given additional resource.

## IV. PROPOSED SYSTEM

### PROPOSED CONCEPT:-

Proposed system an efficient online scheduling algorithm with a positive and concave cost function to stack the processing times of multiple jobs whenever possible and run the jobs with the maximum possible resource in order to reduce the total cost. We prove the lower bound for the competitive ratio. Although continuous concave cost functions and piece-wise linear cost functions are used to conduct the evaluation, the properties proved and the online algorithm proposed apply to all piecewise concave cost functions.

### PROPOSED TECHNIQUE:-

Online Scheduling Algorithm(OSA): OSA with a positive, non-decreasing and concave cost function. Job requests with a large variety of resource requirement. The job requests submitted by different users exhibit different patterns in term of inter-arrival time and job length

### ADVANTAGES:

- It can be schedule for different user in any time.
- Reducing cost low based on time instant.

## V. SYSTEM ARCHITECTURE

The cloud providers will have the information of both brokers and the customers i.e. users. The broker will have the information of the user. Architecture diagram shows the relationship between different components of system. This diagram is very important to understand the overall concept of system. Architecture diagram is a diagram of a system, in which the principal parts or functions are represented by blocks connected by lines that show the relationships of the blocks. They are heavily used in the engineering world in hardware design, electronic design, software design, and process flow diagrams.

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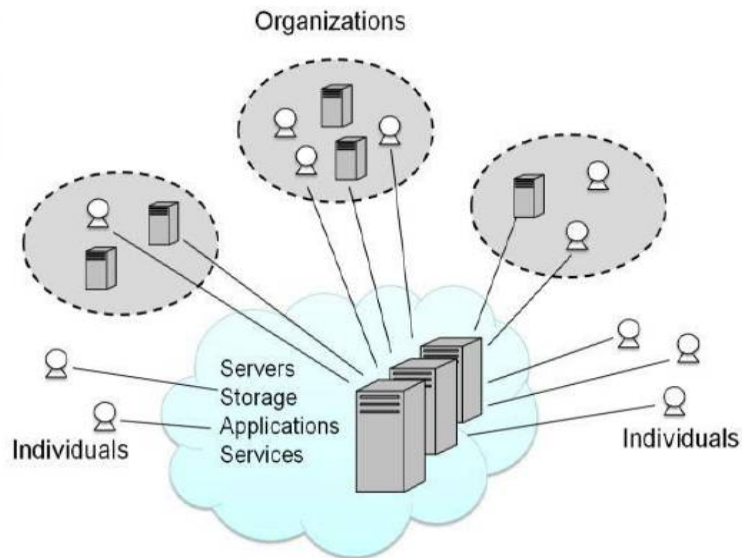


Fig: 1 system architecture

**Cloud provider showing user or broker's information:** Admin i.e. cloud provider Can View the User Information and broker information and the cloud space he get and the space used by them this information is used to enhance the cloud service.

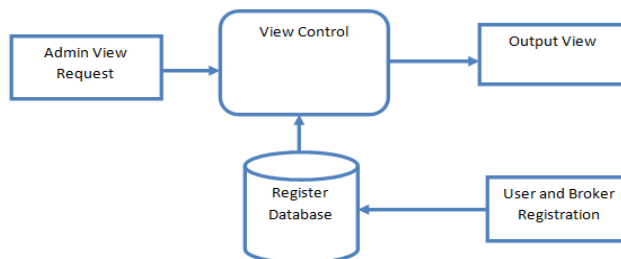


Fig 2: view user or brokers data

**Cloud broker splitting and fixing the amount:** Broker get cloud space is splatter and fixing particular rate to that cloud space that makes convenient to normal users to buy cloud space with lesser cost.

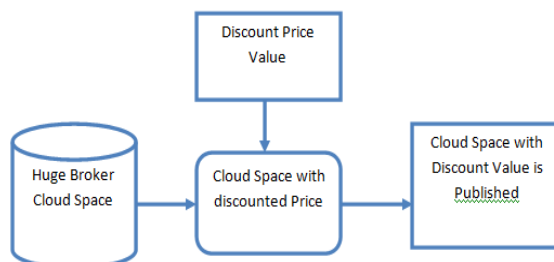


Fig: 3 Splitting and fixing the amount

**User getting the cloud space:** Client can get cloud space from the brokers throw online payment according to their usage they buy the cloud space from different clod providing brokers and used for their general purpose.

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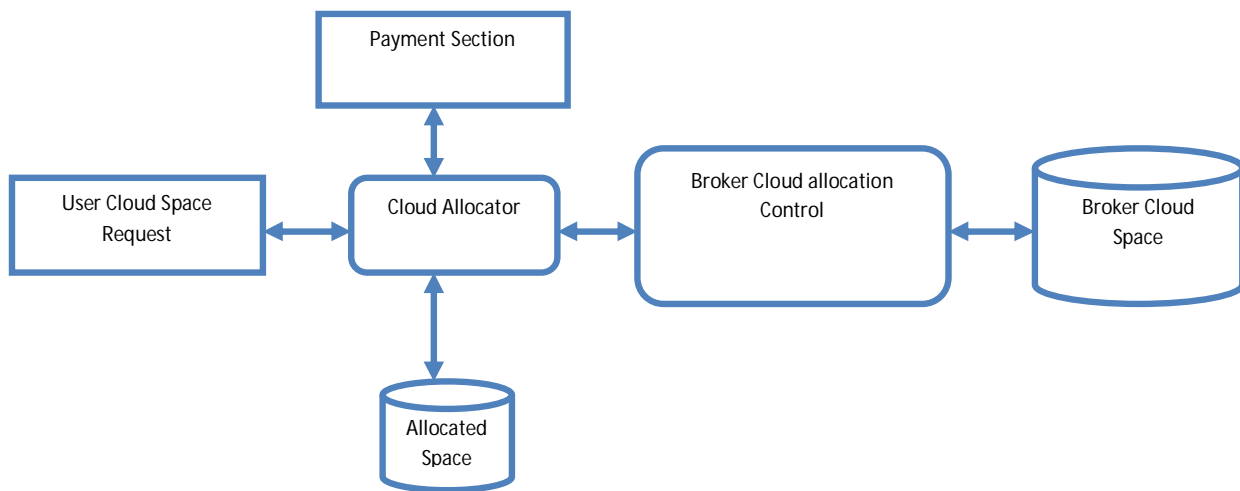


fig: 4 get cloud space

## VI. RESULT

Admin i.e. cloud service provider can check the details of both the broker's and customer's. The details such as ID, Name, Address, Country, email id, mobile.



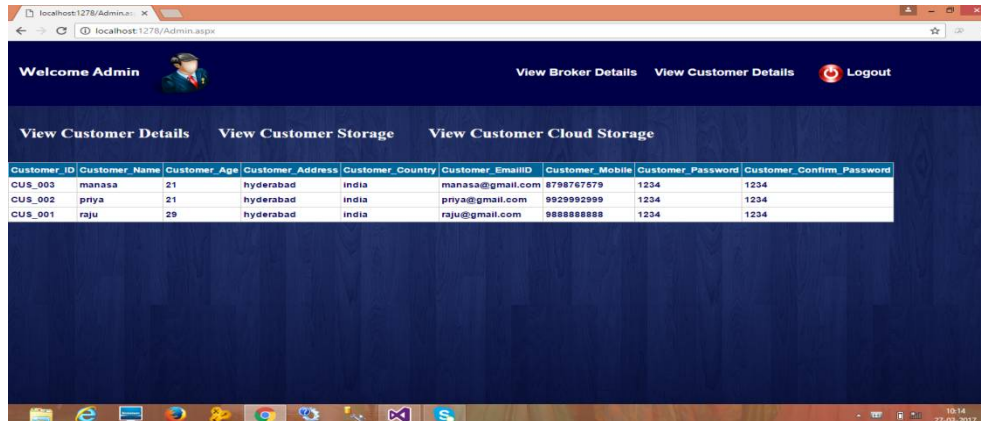
Fig: 5(a) Brokers details

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The screenshot shows a web browser window displaying an administrative interface. At the top, there is a navigation bar with 'Welcome Admin', a user profile icon, and links for 'View Broker Details', 'View Customer Details', and 'Logout'. Below this, there are three tabs: 'View Customer Details', 'View Customer Storage', and 'View Customer Cloud Storage'. The 'View Customer Details' tab is active, showing a table with the following data:

Customer_ID	Customer_Name	Customer_Age	Customer_Address	Customer_Country	Customer_EmailID	Customer_Mobile	Customer_Password	Customer_Confirm_Password
CUS_003	manasa	21	hyderabad	india	manasa@gmail.com	8798767579	1234	1234
CUS_002	priya	21	hyderabad	india	priya@gmail.com	9929992999	1234	1234
CUS_001	raju	29	hyderabad	india	raju@gmail.com	9888888888	1234	1234

Fig: 5(b) Customers details

## VII.CONCLUSION

The booming in the cloud computing market the providers, brokers and users share and consume computing resource. The brokers are attracted by the providers by their discount offer. This paper studies how a broker is scheduling the jobs of users with pricing models, thus users get to know their cost saving. The continuous concave function and piece-wiseline cost functions are used to conduct the evaluation.

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