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Spot Pricing and Revenue Maximization Using Dynamic Cloud Pricing

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Abstract: **We are using Cloud computing for leases and computing resources using virtual machines and price is varied for the period. The fundamental challenge is to design dynamic cloud pricing policy using stochastic demand and recourses demand and perishable resources. The spot price is use to set a price according to market demand. It is important implications on spot market and motivates us to develop and controlled by economic forces using dynamic pricing mechanisms, In this we are going to introduce dynamic cloud pricing using virtual machines, this paper consists some algorithm to implement dynamic cloud pricing and main aim of paper is spot marketing and maximize the revenue using dynamic pricing, in this user pay for the instances and cloud provider provide the services how much user pay and he can also demand the orders.**

Keywords**: Introduction, Objective and motivation, System architecture, Module description, Related work.**

1. INTRODUCTION

Cloud computing provide resources and offered in different types of virtual machines for customers they can demand on purchases. Traditionally, cloud specify offerings a fixed price for each type of virtual machines. In this paper we use different models for manage the revenue; customer felt cloud computing is the burgeoning of the services offering. Beyond advance technologies, cloud computing shows financial landscape of computing. Pricing is an extremely important and necessary for the cloud economy because it affects on a cloud provider's revenue and a customer's budget. Now a day's static pricing is more important and strong strategy, dynamic pricing appears as an attractive alternative to better deal with unpredictable customer's demand. The motivation [1] is intuitive and simple; pricing should be leveraged strategically to influence demand to better utilize unused capacity and providers can generate more revenue. Spot price is the dynamically updated pricing for a virtual instance. Motivated by this, we describe the possible actions in our research paper. The cloud provider with fixed capacity updates the pricing according to market price.

The problem of the revenue maximization is Finite-horizon dynamic stochastic program, with arrivals and departures of stochastic demand. We can also improve our model to the case with nonhomogeneous demand. Prove a surprising result that when the demand arrival and departure rates with system utilization, i.e., number of existing instances, By using optimal price is only a function of time and is independent of the system utilization. Using Google app engine we are going to implement this research paper.

Problem statement: The new challenges of cloud computing is to solving the Revenue maximization problem. First: how to adjust the spot pricing and what are the considerations for the cloud pricing algorithm. Second, Revenue is not only depends on the number of customers demands, but also depends on the system usage duration. Example: Vehicle rental reservations in this we know about the usage durations, in the cloud exact duration is not specified for the instance. Thus, the arrival and the departure of demands are stochastic, and provider collecting revenue by the user account.

2. OBJECTIVE AND MOTIVATION

The cloud providers focus on dynamic pricing because it is useful for the customer's cloud but very difficult to control the user demands by using dynamic pricing the cloud provider has limited ways to control the user requirements and demand. When demand for instances (e.g., Virtual machines, bandwidth, Resources, etc.) then increases the more instances and

degrades the performance of virtual machines, when the probability of the failures occurs, leading to inferior customer's experience. Thus, we believe that dynamic cloud pricing is also benefit to customers, from the performance of view. Its effect on the customer's experience of using the cloud, and help us to planning for interesting future planning for extending the work. Such as it is also an effect on the community (e.g., Microsoft Azure). The motivation of the research is that cloud providers would like to provide the various customers to increase our revenue.

3. SYSTEM ARCHITECTURE

Our main of the research is that the spot pricing is like to be controlling the maximization and minimization of pricing. In this we are using Google app engine as a cloud and it adjust these maximum and minimum pricing according to an unknown algorithm. The conclusion with more thorough examination and modeling, where other possible explanations such as collaborative bidding are ruled out [2]. Therefore, it studies the dynamic pricing for a spot marketing –based on the model and mechanism of the real world cloud. The following figure: 1 shows the system architecture of dynamic cloud pricing.

Spot price determiner: It keeps track of the incoming demand and the presently running request. By this data we can calculate the spot price.

Price configure: It helps the operator to set the price, by controlled arrival process and departure process.

Price calculator: It helps to compare the total amount benefited as the result of Dynamic cloud pricing, price calculator compare the current market price with user demand price and finally it provide the total revenue price.

4. MODULES DESCRIPTION

The Revenue Maximization modules that help us to examine the problem to set the Resources and sold resources to a price sensitive population of buyers. In this work there is a fixed Capacity and the seller have mainly interested in finding an optimal cloud pricing strategy that maximizes the revenue collected over the selling horizon [3].

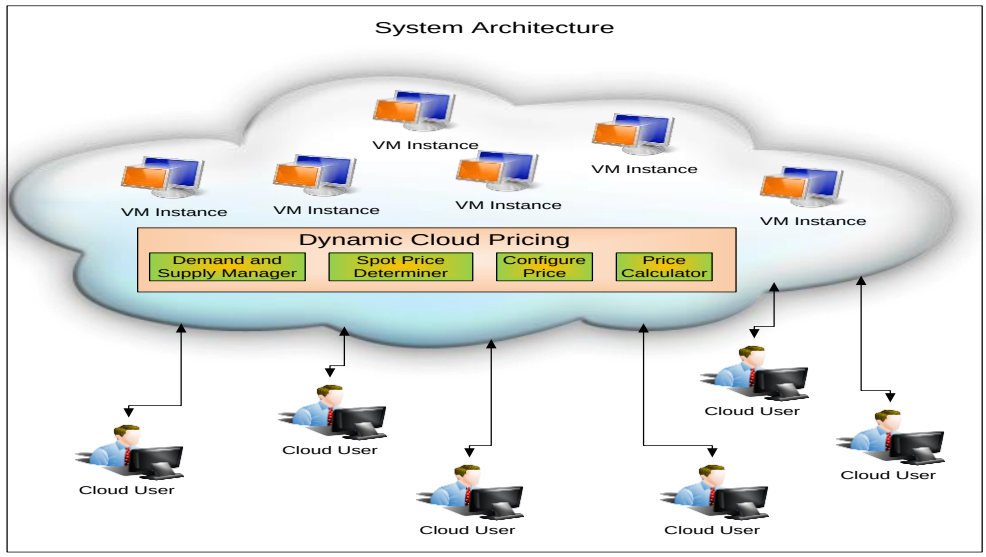

Figure 1: system architecture of dynamic cloud pricing

Generic Module: In this module A cloud provider allocate the resources and it has a fixed capacity to host for a different types of instance At any time, the number of hosted instances cannot be exceed the sequence of auctions, and periodically carried out the users arrive, bidding the instances.

Cloud provider's problem: How to provide the number of instances for auction off at each time, Design the optimal auction mechanism at each time.

User Module: User arrives at time and bids for available instances, reported bid: The private information is possible at the user's bid there is no partial fulfillment: A user is either rejected or gets all the requests.

User's problem: User chooses the best biding for maximize system utility**.**

Deterministic Module: In this we assume that the seller has exact and perfect information about the demand process. There are two reasons for why we choose review deterministic models. First reason is deterministic models are provide a good approximation for complicated stochastic models and easy to analyze. Determine the solutions for asymptotic optimal for stochastic demand problem. The second reason is that deterministic models are commonly used in regular process. Deterministic models form the classic economic model for the monopolistic pricing, which is essentially for the research that is presently done in marketing.

Stochastic Module: In this module pricing policies are more complex and hard to compute. Stochastic models are use full for describe the real life situations like where is the paths of demand and describe the detailed list of unpredictable over time and managers uncertainly adjusting the prices and collects the all relevant information of the current inventory positions, sales and establishes the prices for sold product. In this the inventory levels of relevant information that managers need to make pricing decisions.

Bid price Module: The bid-price model is the extension model of the static pricing model, both have common in the prices for every class and for every resource are fixed over the time. Consequently, to find out the optimal prices, to solve optimization problem.

Queue Module: In this module we can utilize the virtual queue technology. The actual queue technology must be accepted in a FIFO method to ensure the worst-case delay. Obviously, which one having the higher price request that will be serviced before the lower price. Thus, we need a new model to ensure the queue is serviced in a FIFO order [3]. Here, we separately arrange the queues for the each request with different prices.

5. RELATED WORK

Mainly Our work on revenue management. Since the dynamic pricing is the current topic of revenue management, with many real world applications. The Cloud computing is the unique challenge; so we need to design the stochastic pricing with arrival and departure demand [1]. This is because in our problem, price is charged per unit of time and sale, while previous works only consider the simple case of charging per unit of sale. An extensive literature exists on pricing in communication networks and Internet.

The benefits of usage-based pricing: it is use to shown that with pricing differentiation one who can use the resources more efficiently. Paris Metro Pricing: Is use for service access control service differentiation are atomically achieved by charging for different service with different prices. The tiered pricing that share the same infrastructure and used for Internet transit. Time is another dimension for unbundle connectivity. Study the time dependent pricing for mobile data. Our work is more related to the online pricing literature that deals with instantaneous demand dynamics and adjusts price on the spot [6]. Compared to offline pricing is less explored in the community then the online pricing. The online pricing is based on congestion in networks and it achieves good performance in networks using static.

Our main concern is on spot marketing and maximizes the revenue using dynamic cloud pricing. A stochastic model use for the spot pricing of EC2. Our focus is to develop a new dynamic cloud pricing that improves the revenue operator.

6. CONCLUSIONS

Now a days cloud computing is the current issue and it providing different types of IT services to customers like "pay-as-you-go" manner means how much we pay for the instance that much we can utilize the services. Cloud computing requires legal services and agreements to facilitate the collaboration between customers and cloud service providers. This paper addresses how to maximize cloud provider's revenues based on the performance-aware pricing model and provide the proper resource allocation for the customers by this concept we can avoid bargaining and provide the spot market and we can maximize the revenue.

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REFERENCES

[1] Dynamic cloud pricing for revenue maximization. Authors: Hong Xu, and Baochun Li.

[2] Bid price control and dynamic pricing in clouds. Authors: Marc Premm.

[3] An Overview of Pricing Models for Revenue Management. Authors: Gabriel Bitran¤ Ren´e Caldenteyy.

[4] Revenue Maximization Using Adaptive Resource Provisioning in Cloud Computing Environments. Authors : Guofu Feng , Saurabh Garg, Wenzhong Li

[5] Revenue Maximization with Dynamic Auctions in IaaS Cloud Markets. Authors: Wei Wang, Ben Liang, Baochun Li

[6] Dynamic Resource Allocation for Spot Markets in Clouds. Authors: Weijie Shi,Chuan Wu

[7] RSMOA: A Revenue and social Welfare Maximizing Online Auction for Dynamic Cloud Resource Provisioning Authors: Qi Zhang, Eren G¨urses, Raouf Boutaba

[8] An Overview of Pricing Models for Revenue Management," Manufacturing & Service Operations Management, vol. 5, no. 3, pp. 203-229, Sept. 2003.