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Profit Maximization in Cloud Computing Systems

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Abstract

Cloud computing with the great support of virtualization technologies has become a very compelling computing paradigm. A cloud is an aggregation of resources typically operated/provided by an autonomous administrative entity/body (e.g., Amazon, Google or Microsoft). These resources are not restricted to hardware, processors and storage devices, but they can be also software services. While clouds and grids share some common characteristics, there are a number of distinct differences including resource coupling, runtime environment and usage model. Clouds are primarily driven by economics—the pay-per-use business model like for many basic utilities, such as electricity and water. This business model is very attractive for both vendors and customers. From vendor’s perspective, efficient resource management, more specifically resource utilization, plays a crucial role particularly in maximizing profits. Customers can also benefit from efficient resource management in lower service request costs and better response time. This talk will review and address issues associated with this profit-driven resource management.