Abstract

Cloud computing is gaining popularity in the 3D Animation industry for rendering the 3D images. Rendering is an inevitable task in creating the 3D animated scenes. It is a process where the scene files to be animated is read and converted into 3D photorealistic images automatically. Since it is a computationally intensive task, this process consumes the majority of the time taken for 3D images production. As the scene files could be processed in parallel, clusters of computers called render farms can be used to speed up the rendering process. The advantage of using Cloud based render farms is that it is scalable and can be availed on demand. One of the important challenges faced by the 3D studios is the comparison and selection of the cloud based render farm service provider who could satisfy their functional and the non functional Quality of Service (QoS) requirements. In this paper we propose, a framework for Cloud Service Broker (CSB) responsible for the selection and provision of the cloud based render farm. The Cloud Service Broker matches the functional and the non functional Quality of Service requirements (QoS) of the user with the service offerings of the render farm service providers and helps the user in selecting the right service provider using an aggregate utility function. The CSB also facilitates the process of Service Level Agreement (SLA) negotiation and monitoring by the third party monitoring services.
A Service Broker Model for Cloud based Render Farm Selection

References

Index Terms
Computer Science  Distributed Systems

Keywords
3D Animation  Rendering  Cloud Render farms  Cloud Services Brokerage  Aggregated Utility Function.