**ABSTRACT**

Virtualization is a key concept in enabling the computing as a service vision of cloud based solutions. In other words, Virtualization is a software which makes it possible to run multiple Operating Systems and multiple applications on the same server at the same time. In this case the Physical Machine may get overloaded due to heavy user interactions. This may lead to performance degradation of the Physical Machine. To maintain the system performance, Live Virtual Machine migration comes into account. Virtualization provides significant benefit in data center by enabling virtual machine migration to eliminate Hotspots. Hotspot is an abnormally high demand on a cloud resources over a short period of time. Hotspot can also be defined as an overloaded condition of the Physical Machine. Our project aims at resolving the issues of the imbalance of resource utilization using “A Time Series based Analysis Technique”. It is used for the effective utilization of resources and to retain the downtime during the detection of Hotspots in case of occurrence of any sudden spikes.

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