

# Load Balancing Virtual Machines Deployment Mechanism In SDN Open Cloud Platform

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**Abstract**— As a cloud data center may be located over many regions and the network environment within a cloud data center may differ from traditional ones, how Virtual Machines (VMs) are deployed will influence service performance. This study, based on the Eucalyptus cloud computing and Software-Defined Networking platform, proposes a load balancing scheduling mechanism that works on the current network status between users and associated VMs to improve the cloud services. This study also set up a node controller on the same subnet and different subnet. Study results indicate that in the same subnet of normal network, the VMs deployed with the proposed mechanism improve transmission time by 2.64% and 68.72% compared to that of the Round Robin and Greedy mechanisms consecutively. In the different subnet of normal network scenario, the proposed mechanism improves transmission time by 22.01% and 52.11% compared to that of the Round Robin and Greedy mechanisms respectively.

**Keywords**—Load Balancing, Virtual Machines, Eucalyptus, OpenFlow, Cloud Computing, Software-Defined Networking.



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