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IJCA Proceedings on International Conference  
on Internet of Things, Next Generation Networks and Cloud Computing

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ICINC 2016 - Number 1

Year of Publication: 2016

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{bibtex}icinc4738.bib{/bibtex}

### **Abstract**

Cloud systems software requires a VM placement engine that decides where to place the virtual machine in the environment. The placement engine in the cloud platform such as OpenStack considers multiple constraints when launching a new instance, including required compute and memory resources. This placement mechanism does not consider network requirements of VM. In this paper, we propose the solution to optimize the network resources which is easily integrated in the OpenStack placement engine. Our solution keeps the track of the traffic following within the physical network devices and the appropriate action is taken to optimize the network resources including migration of existing VM.

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## Index Terms

Computer Science

Distributed Systems

## Keywords

Cloud Network Optimization Virtual Machine Container Placement Migration