Generally, the term “virtualization” refers to the process of converting a hardware-based entity into a software-based component. The final result of such a procedure is encapsulation of an entity’s logic and hence Virtual Machine (VM) derived its name. Virtualization separates hardware from software and has benefits of server consolidation and live migration. The main advantage of this technique is that multiple VMs can run on top of a single physical host, which can make resource utilization much more efficient. Of particular interest are those VMs with high availability requirements, such as the ones deployed by cloud providers, given that they generate the need to minimize the downtime associated with routine operations.

While physical hosts have to be powered down for maintenance, the VMs that they serve can migrate to execute on other physical nodes. It is also common to migrate VMs when load balancing is needed in the physical plane. The process of migrating VMs without any perceptible downtime is known as Live Virtual Machine Migration and is the topic of this paper. This nontrivial problem has been studied extensively and reasonable solutions have been put to
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practice.

References


Index Terms

Computer Science

Information Sciences

Keywords

Machine Migration; Load balancing; Offline Migration; SLA parameters