Abstract

In today’s fast advancing technology, virtualization has presented the possibility of consolidating unused/underutilized resources into one physical component. This comes with benefits such as saving costs, hardware independence and improving security by isolation; it is no wonder virtualization is gradually being implemented in every aspect of the technology world. A virtualized system is able to run several separate Operating Systems (OSs) in parallel and in one Central Processing Unit (CPU) without the need to reboot. Unlike in a dual boot system,
where only a single OS can run at a time requiring rebooting in order to switch to the other OS.

Server virtualization is a term used to describe the abstraction of a physical server resource i. e.
server consolidation. The VMware integrated Elastic Sky X (ESXi) is a bare metal hypervisor
which provides the illusion of a real hardware to the guest (OS). This in turn simplifies
underlying hardware by abstraction and therefore promoting better utilization of needed
resources. Prior virtualization, server sprawl never presented itself to organizations as a shock,
an event where one physical server performs only one function such as printer server, email
server to mention but just a few which required a lot of money to maintain in the form of cooling
devices and space. This study focuses on server virtualization using the cost effective VMware
ESXi and its manager, vSphere client to host a network domain, a case of the Department of
Computer Science (CSC), University of Fort Hare. The rationale behind this research project
was to consolidate all physical servers into one physical machine without immense consumption
of hard disk space since resources are only allocated when needed in a virtualized
environment.

References

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Index Terms

Computer Science  
Networks

Keywords

Cost-effective  Virtualization  VMware ESXi  vSphere-Client  and Hypervisor.