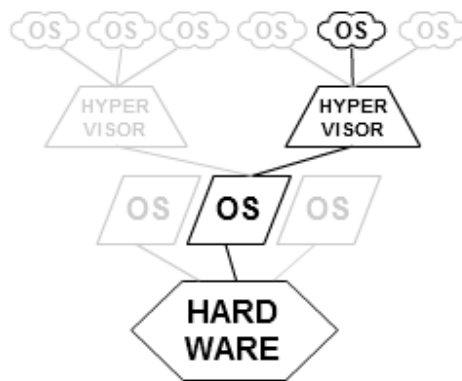


Aim:- To Study and implement Desktop Virtualization

Theory

Desktop virtualization is the concept of separating the logical desktop from the physical machine. The Virtualization is the ability to run multiple operating systems on a single physical system and share the underlying hardware resources. In cloud computing Virtualization can be achieved using Hypervisor. A hypervisor, also known as a virtual machine manager/monitor (VMM), is computer hardware platform virtualization software that allows several operating systems to share a single hardware host. Each operating system appears to have the host's processor, memory, and resources to it. There are various hypervisors Products are available in market some of them are- Xen, KVM, VMWare, Oracle Virtual Box.

Desktop virtualization is software technology that separates the desktop environment and associated application software from the physical client device that is used to access it. The Desktop Virtualization is based on Hosted Hypervisor where Vm runs over base os. The hosted hypervisors run within a conventional operating-system environment. With the hypervisor layer as a distinct second software level, guest operating-systems run at the third level above the hardware. The common examples of hosted hypervisor are VMware Workstation, Oracle Vm Virtual Box, Qemu etc.



Hosted Hypervisor

(Draw diagram on blank page)

Steps to implement Desktop Virtualization

Step 1:- Install Desktop Virtualization Software like VMware WorkStation or Oracle Virtual box Vm on Existing Operating System.

Step 2-: Once the installation is Over Create new Vm by clicking New Button which runs host OS allows you to Specify Resources for Guest VM like VCPU,Memory,Disk Size, network Configuration etc.

Step 3-: Once Vm is created Start the installation by Clicking Start button and Specify path of iso file through which installation will be done.

Step 4 -: Once OS is installed it can be accessed inside the VMBOX.

Conclusion -: As Desktop Virtualization intended to run multiple Desktop OS on Single machine but it's not feasible if the base machine has lower hardware Configuration and hosted hypervisor logically shares Hardware resources to Guest OS so there is no guarantee of getting resources at critical time.

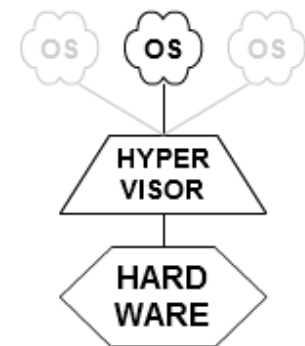
Aim:- To Study and implement Server Virtualization

Theory

Virtualization, in computing, refers to the act of creating a virtual (rather than actual) version of something, including but not limited to a virtual computer hardware platform, operating system (OS), storage device, or computer network resources. Virtualization is the ability to run multiple operating systems on a single physical system and share the underlying hardware resources. In cloud computing Virtualization can be achieved using Hypervisor Which is computer hardware platform virtualization software that allows several operating systems to share a single hardware host. Each operating system appears to have the host's processor, memory, and resources to it. There are various hypervisors Products are available in market some of them are- Citrix Xen, KVM, VMware ESXI, Open Stack. Eucalyptus etc. Server virtualization is the partitioning of a physical server into smaller virtual servers to help maximize your server resources. In server virtualization the resources of the server itself are hidden, or masked, from users, and software is used to divide the physical server into multiple virtual environments, called virtual or private servers.

Server virtualization is the masking of server resources, including the number and identity of individual physical servers, processors, and operating systems, from server users. The server administrator uses a software application to divide one physical server into multiple isolated virtual environments. The virtual environments are sometimes called virtual private servers, but they are also known as guests, instances, containers or emulations. Virtual machines are based on the host/guest paradigm. Each guest runs on a virtual imitation of the hardware layer. This approach allows the guest operating system to run without modifications. It also allows the administrator to create guests that use different operating systems. The guest has no knowledge of the host's operating system because it is not aware that it's not running on real hardware. It does, however, require real computing resources from the host -- so it uses a hypervisor to coordinate instructions to the CPU. The hypervisor is called a virtual machine monitor (VMM).

It validates all the guest-issued CPU instructions and manages any executed code that requires additional privileges. VMware and Microsoft Virtual Server both use the virtual machine model.



Bare Metal Hypervisor

(Draw diagram on blank page)

Steps to implement Server Virtualization

Step 1-: Start Computer and change boot order make First boot device as CDROM.

Step 2-: Insert Hypervisor DVD in to CD ROM and start Installation of Hypervisor OS like VMware ESXi, Citrix Xen Server, Ubuntu Server for Openstack etc. on to the physical server by formatting existing OS

Step 3-: During installation specify Keyboard Layoue, installation language , partitioning techniques and time zone.

Step 4-: once the installation is over start hypervisor OS.

Step 5-: Access Hypervisor os on management utility and Create and Run Guest VMs over it.

Conclusion -: The server virtualization is faster than Desktop virtualization and there is guarantee of resource delivery because of that Most of the cloud Computing Solutions uses Server virtualizations for their implementation.