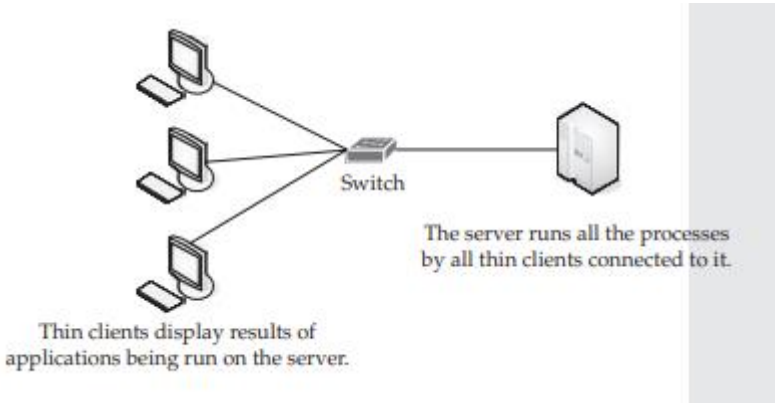
UNIT -4

Local Clouds and Thin Clients

Local Cloud: A local cloud skips the service provider component, and allows you to manage all the content yourself in your own data centre. With a local cloud, you keep your server in-house and clients connect to it.

Thin Clients : A thin client is a computer that runs from resources stored on a central server instead of a localized hard drive. Thin clients work by connecting remotely to a server-based computing environment where most applications, sensitive data, and memory, are stored.



Virtualization in Your Organization or Virtualization Types

Virtualization: Virtualization means sharing resources. Virtualization in Cloud Computing is making a virtual platform of server operating system and storage devices. This will help the user by providing multiple machines at the same time.it also allow sharing a single physical instance of resource or an application to multiple users.

Imp Virtualization types:

- Server virtualization
- Application virtualization
- Presentation virtualization

Server virtualization: This is a method of partitioning a physical server computer into multiple servers so that each has the appearance and capabilities of running on its own dedicated machine. An example of this is VMware or Hyper-V etc...

Application virtualization: Application virtualization means running an application on a machine, which does not actually have the application, installed. Instead, the application resides on a virtual machine on a server in a different location and using the operating system of that remote server. Access to the application by the end user is over a LAN or WAN.

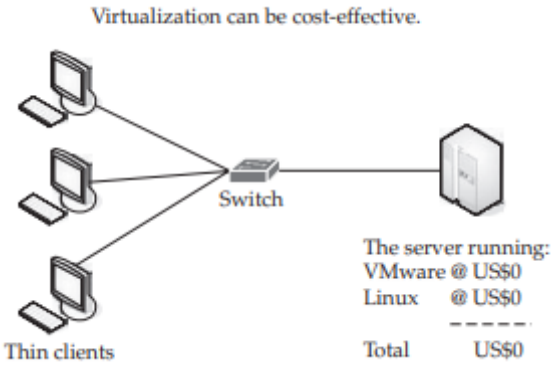
Example: Windows Virtual Desktop and PACE Suite etc..

Presentation virtualization: This method isolates processing from the graphics and I/O, which makes it possible to run an application in one location (the server) but be controlled in another (the thin client). In this method, a virtual session is created and the applications project their interfaces onto the thin clients. It can either run a single application or present an entire desktop

Example of presentation virtualization is Citrix XenApp

Why Virtualize?

Cost



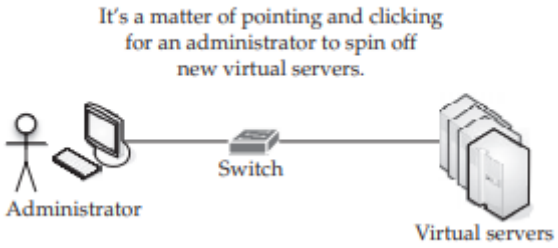
Administration

The following factors ease your administrative burdens:

• A centralized console allows quicker access to servers.
• CDs and DVDs can be quickly mounted using ISO files.
• New servers can be quickly deployed.
• New virtual servers can be deployed more inexpensively than physical servers.
• RAM can be quickly allocated for disk drives.
• Virtual servers can be moved from one server to another.

Fast Deployment

Because every virtual guest server is just a file on a disk, it's easy to copy (or clone) a system to create a new one. To copy an existing server, just copy the entire directory of the current virtual server.



Reduced Infrastructure Costs

- Increased hardware utilization by as much as 70 percent
- Decreased hardware and software capital costs by as much as 40 percent
- Decreased operating costs by as much as 70 percent

How to Virtualize :

Determining the Benefits of Virtualization

- ✓ Determine if your business can benefit from virtualization.
- ✓ Decide on the hardware needed for your business.
- ✓ Choose which applications are suitable for a virtual environment.

Building Your Server

- ✓ Choose an operating system that works best for you
- ✓ Decide the amount of cores and speed of the CPU.
- ✓ Determine what speed and type of RAM to use.
- ✓ Choose a storage solution for storing the data in.
- ✓ Install an operating system to your host machine.

Configuring Virtual Machine Software

- ✓ Download and install virtualization manager on your server.
- ✓ Open virtual machine management software and configure virtual machine specifications.
- ✓ Install an operating system on the virtual machine.
- ✓ Configure software to run on the virtual machine.
- ✓ Evaluate the current performance of the servers and virtual machines.

Server Solutions or Virtualization Software's

Microsoft HyperV:

Hyper-V is Microsoft's hardware virtualization product. It create and run a software version of a computer, called a *virtual machine*. Each virtual machine acts like a complete computer, running an operating system and programs. Hyper-V runs each virtual machine in its own isolated space, which means you can run more than one virtual machine on the same hardware at the same time.

Hyper-V can help you:

- Establish or expand a private cloud environment.
- Use your hardware more effectively.
- Improve business continuity
- Establish or expand a virtual desktop infrastructure (VDI).
- Make development and test more efficient.

Features:

Computing environment - A Hyper-V virtual machine includes the same basic parts as a physical computer, such as memory, processor, storage, and networking.

Disaster recovery and backup - For disaster recovery, Hyper-V Replica creates copies of virtual machines intended to be stored in another physical location

Optimization - Each supported guest operating system has a customized set of services and drivers, called *integration services*, that make it easier to use the operating system in a Hyper-V virtual machine.

Portability - Features such as live migration, storage migration, and import/export make it easier to move or distribute a virtual machine.

Remote connectivity - Hyper-V includes Virtual Machine Connection, a remote connection tool for use with both Windows and Linux.

Security - Secure boot and shielded virtual machines help protect against malware and other unauthorized access to a virtual machine and its data.

How to get Hyper-V

Hyper-V is available in Windows Server and Windows, as a server role available for x64 versions of Windows Server.

Supported operating systems

- Supported Linux and FreeBSD virtual machines for Hyper-V on Windows
- Supported Windows guest operating systems for Hyper-V on Windows Server

VMWARE:

VMware offers its VMware Server, a free entry-level hosted virtualization product for Linux and Windows servers. The product is available for download at www.vmware.com/ products/server/.

Features

VMware Server, the successor to VMware GSX Server, enables users to quickly provision new server capacity by partitioning a physical server into multiple virtual machines, bringing the powerful benefits of virtualization to every server.

VMware Server is feature-packed with the following market-leading capabilities:

• Support for any standard x86 hardware

• Support for a wide variety of Linux and Windows host operating systems, including 64-bit operating systems

• Support for a wide variety of Linux, NetWare, Solaris x86, and Windows guest operating systems, including 64-bit operating systems

• Support for Virtual SMP, enabling a single virtual machine to span multiple physical processors

• Quick and easy, wizard-driven installation similar to any desktop software

• Quick and easy virtual machine creation with a virtual machine wizard

• Virtual machine monitoring and management with an intuitive, user-friendly remote console

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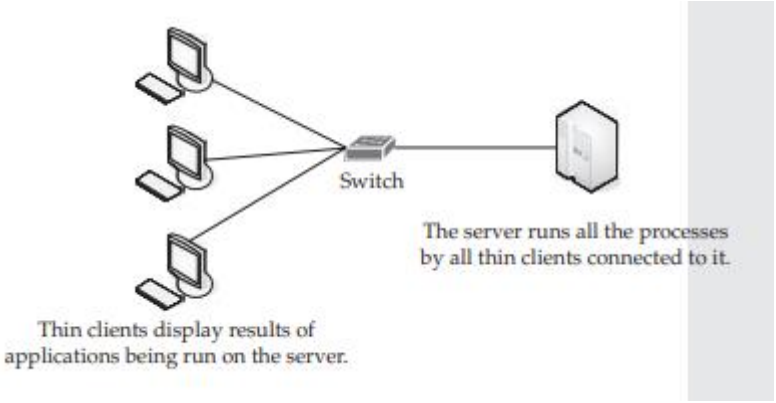

Thin Offering Companies:

- Sun -- download matter from text book
- Hewlett Packard (HP) -- download matter from text book
- Dell -- download matter from text book