

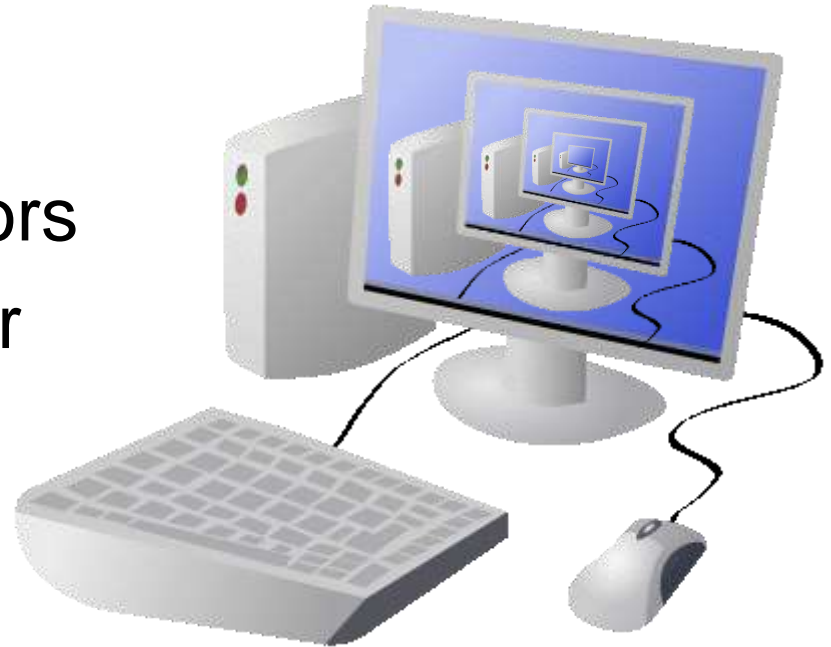


Hypervisors

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Overview

- Description
- Typical Usage
- Uses of Virtualization
- Two Types of Hypervisors
- The Famuse Hypervisor



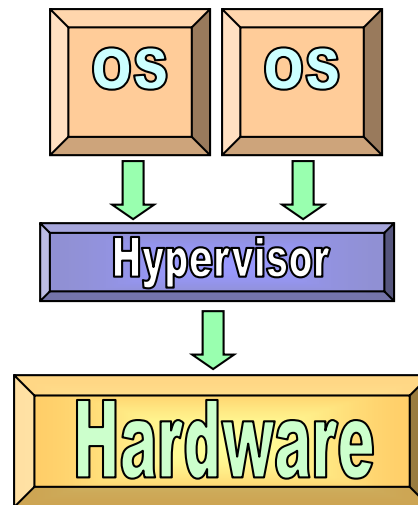
Description

- Hypervisor also known as **Virtual Machine Monitor (VMM)**.
- First developed for Servers and Mainframes by **IBM**.
- Software **emulating** hardware to operating systems.
- Virtualization is way to run **multiple operating systems** and **user applications** on the same hardware.
 - E.g., run both Windows and Linux on the same laptop
- Both OSes run **simultaneously**.
- The OSes are completely **isolated** from each other.

Typical Usage

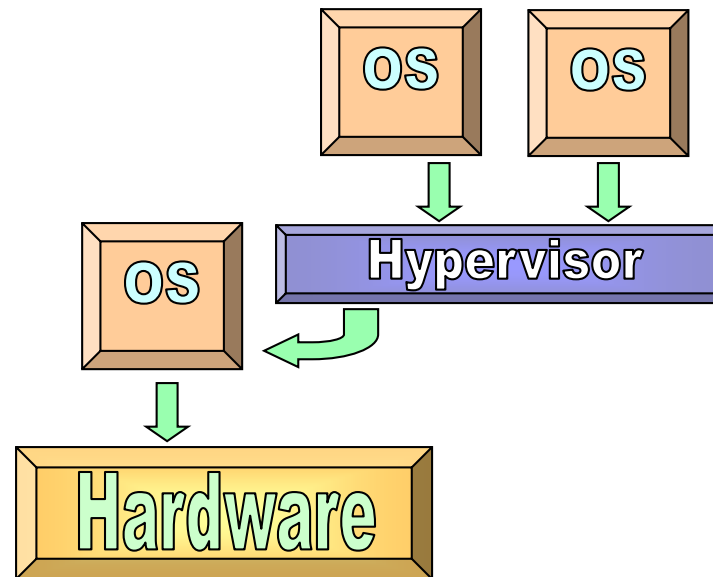
- Machine Consolidation - More machines in one, for mutually exclusive function.
- Easier Development - Develop critical operating system components (file system, disk driver) without affecting computer stability
- Sandboxing – A mechanism for safely running untrusted programs.
- Cloud computing - The modern **buzz-word**

Native Hypervisor (bare-metal)



- Hypervisor directly on top of hardware.
- Emulates hardware to operating systems.
- VMware ESX, XEN Server, KVM ...

Hosted Hypervisor



- Runs under host operating system.
- Easier to implement.
- VMware Workstation, Microsoft Virtual PC, Sun VirtualBox,

The Famuse Hypervisor

- Citrix Xen Server
- KVM
- VMware vSphere
- Oracle VM (OVM)

