Week Report 2

Summary of Presentations

The Basics Of Virtualization

Virtualization is a replication of hardware to simulate a virtual machine inside a physical machine.

There are two different types of virtualization which are server-side virtualization and client-side virtualization.

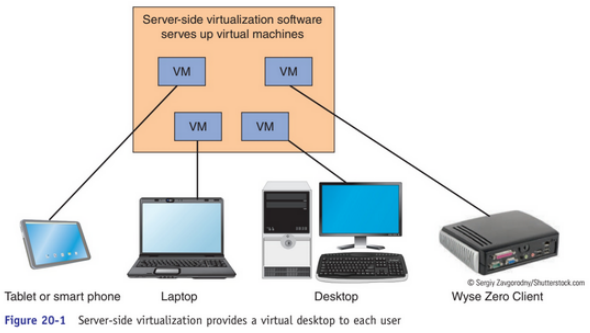


Figure 20-1 Server-side virtualization provides a virtual desktop to each user

Client-side virtualization

- Software installed on a computer to manage virtual machines
- Each VM has its own operating system installed
- For client-side virtualization, the computer needs:
  - A hypervisor (Software that allows the management of virtual machines)
  - Hardware support
    - capable CPU
    - Enough RAM
    - Enough storage

There are many benefits to using Virtualization

- Allows running of multiple OSs on one machine
- Allows applications to be tested before installing them onto a host machine
- Reduces the costs of running a network by decreasing the amount of physical hardware you need.

Requirements for Virtualization

Can my computer virtualize?

For a decent virtualization experience your computer should meet the following minimal specifications:

AMD V or INTEL V compatible processor

Dual core x64 processor with 1.3 GHz or faster

4GB of RAM

Enough free hard drive space for installing guest OSs (see the minimal requirements of the desired Operating System)

Installing Ubuntu In Virtualbox

General

Name: Ubuntu-CIS106
Operating System: Ubuntu (64-bit)

System

Base Memory: 2048 MB
Processors: 2
Boot Order: Optical, Hard Disk
Acceleration: VT-x/AMD-V, Nested Paging, KVM Paravirtualization

Preview

Ubuntu-CIS106

Display

Video Memory: 128 MB
Graphics Controller: VMSVGA
Acceleration: 3D
Remote Desktop Server: Disabled
Recording: Disabled

Storage

Controller: IDE
IDE Secondary Device 0: [Optical Drive] ubuntu-20.04.3-desktop-amd64.iso (2.86 GB)
Controller: SATA
SATA Port 0: Ubuntu-CIS106.vdi (Normal, 50.00 GB)

Audio

Disabled

Network

Adapter 1: Intel PRO/1000 MT Desktop (NAT)

USB

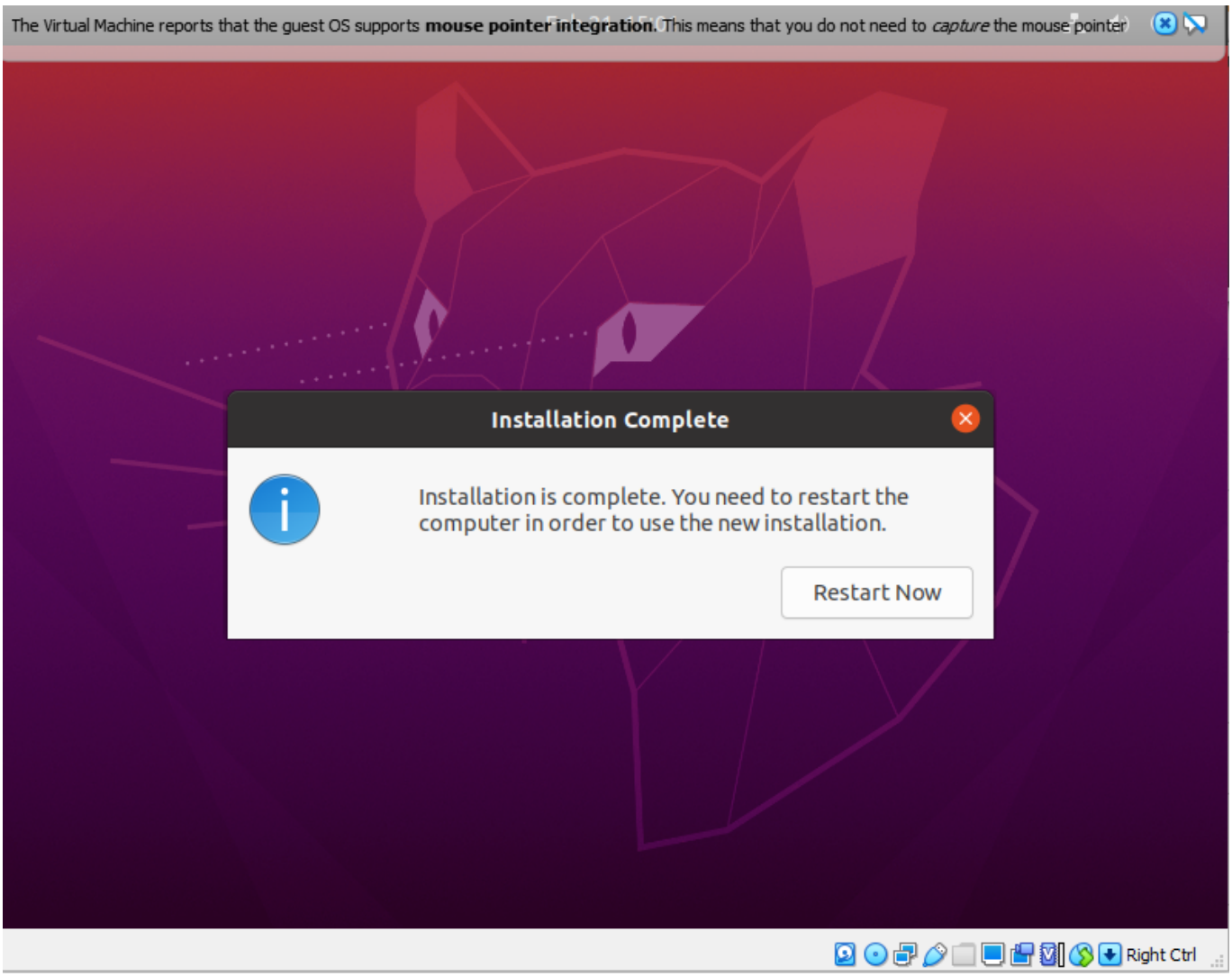
USB Controller: OHCI
Device Filters: 0 (0 active)

Shared folders

None

Description

Hostname: cis106
User: student
Password: pccc



What Is The Raspberry Pi

Raspberry Pi is a low cost, credit-card that plugs into a computer monitor or TV, it is able to do everything a desktop computer can do with a basic keyboard and mouse.

- Pi Zero W
- Pi 3 A+
- Raspberry Pi 3

Latest Model Raspberry Pi 400

Projects that can be used on a Raspberry Pi

- Wi-Fi Extender
- Security Camera
- Remote-Controlled 3D Printer
- Language Translator
- Network Attached Storage (NAS)