NWCLUG

VMWare Player

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Intro

- Recently VMWare released a limited version of their workstation virtual machine product called "VMWare Player"

- Originally it was intended to just "play" virtual machines (VM) that other people created in VMWare Workstation Product.

- Player allows users to run pre-exisiting virtual machines, but not create new ones

- People have figured out how to make their own virtual machines, and install any OS that they want

- Since the bar for entry has been lowered, there is plenty of potential for experimentation! (ie. Test new OS or configurations, run Windows on Linux, eliminate dual-boot machines)

Necessary Files

- Goal is to use only (**legal**) freely available files...

- VMWare player setup file (Linux OR Windows install!)

  - http://www.vmware.com/download/player/

- "Browser Appliance VM" - Basically stripped down Ubuntu Linux

  - http://www.vmware.com/wl/info/1927/0

- Qemu – Opensource Emulator can create VMWare images from scratch

  - For windows: http://www.h7.dion.ne.jp/~qemu-win/

  - For Linux: http://fabrice.bellard.free.fr/qemu/download.html

- OS to install (distribution ISO, Windows install CD) – If Needed

  - http://www.debian.org/CD/

  - http://www.ubuntulinux.org/download/

  - http://fedora.redhat.com/download/

Hack the "Browser Appliance"

Goal

To make the "Browser Appliance" VM into a fully usable Ubuntu install.

Hack the "Browser Appliance"

- Get Root on VMWare Player

    – #shell$ sudo /bin/bash

    – Password: /// input user password ... "vmware"

    – #root@vmware$ passwd

    – Enter new UNIX password: xxx (enter new pass)

    – Retype new UNIX password: xxx (confirm new pass)

- Update the system

    – In /etc/apt/source.list, uncomment all the lines with "universe" in them

    – Add any new repositories (new releases...etc.)

    – #root@vmware$ apt-get update

    – #root@vmware$ apt-get dist-upgrade

Hack the "Browser Appliance"

- If behind a proxy (at work, etc)

  - Create and edit a file named /etc/apt/apt.conf

  - Add *Acquire::http::Proxy "http://[[user][:pass]@]host[:port]";;* to file

Install New OS

Goal

To install a new OS ontop of the "Browser Appliance" VM OR onto of a newly created VMWare image

Install Instructions

1) Install the VMWare player.

2) Download the "browser-appliance" image (OR ... see next slide)

3) Download OS iso OR locate installer CD

4) Duplicate the Browser-Appliance VM folder – I renamed mine "debian"

5) Edit Browser-Appliance.vmx with your favorite text editor. Modify these lines:

   · ide1:0.present = "TRUE"

   · ide1:0.deviceType = "cdrom-image" OR "auto detect"

   · ide1:0.fileName = "c:\vmware\iso\name-of-install-cd.iso" OR "cdrom-raw"

6) Start VMWare image from the VMWare player

7) Boot VMWare virtual machine. Press F2 during POST and specify CD-ROM as your boot medium.

8) Install Debian (or other OS) as you see fit. Make sure the Ethernet is set to "Bridged" and is active before you attempt to install.

9) When rebooting after install, <u>make sure to specify your hard-drive as the boot medium</u>, otherwise VMWare will boot from your install CD again.

Post Install

- Make sure you select "vmware" as your video driver in Debian

- If networking is giving you issues make sure you have pcnet32 module enabled.

- VMWare NAT configuration (an option if bridged doesn't work)

    - http://www.vmware.com/support/ws5/doc/ws_net_nat_advanced.html

- Configs will vary between OS's... I am only covering Debian

- Update your OS just like you would if it wasn't a VM install

    - #root@hostname$ apt-get update

    - #root@hostname$ apt-get dist-upgrade

Make VMWare Image from scratch

1. Download qemu program
For windows:
http://www.h7.dion.ne.jp/~qemu-win/
For Linux:
http://fabrice.bellard.free.fr/qemu/download.html

2. Create vmdk disk file like this:

    qemu-img.exe create -f vmdk

3. Create vmx config file using basic options below:
config.version = "8"
virtualHW.version = "3"
memsize = "128"
ide0:0.present = "TRUE"
ide0:0.fileName = "DiskFile.vmdk"

-------*TO BOOT AN ISO*----------
ide1:0.present = "TRUE"
ide1:0.fileName = "c:\debian.iso"
ide1:0.deviceType = "cdrom-image"

OR
-------*TO BOOT CDROM*-----------
ide1:0.present = "TRUE"
ide1:0.fileName = "auto detect"
ide1:0.deviceType = "cdrom-raw"

VMX Config File continued...

floppy0.fileName = "A:"
ethernet0.present = "TRUE"
ethernet0.connectionType = "nat"
usb.present = "TRUE"
sound.present = "TRUE"
sound.virtualDev = "es1371"
displayName = "Debian 1"
guestOS = "other24xlinux"
nvram = "debian1.nvram"
scsi0:0.redo = ""
ethernet0.addressType = "generated"
uuid.location = "56 4d f3 a5 03 8c cb b9-ed bb 8f 10 a3 de b0 10"
uuid.bios = "56 4d f3 a5 03 8c cb b9-ed bb 8f 10 a3 de b0 10"
ide1:0.autodetect = "TRUE"
ethernet0.generatedAddress = "00:0c:29:de:b0:10"
ethernet0.generatedAddressOffset = "0"
checkpoint.vmState = ""
tools.remindInstall = "TRUE"
ide0:0.redo = ""

Now just run up the vmx file in the player.
Boot the cdrom/iso and install the os as usual.

Alternatives

- Qemu - If you're looking for a 100% open source way to run virtual machines in Linux, try Qemu. Not as polished, and slower... (See next slide for tutorial link)

- BOCHS - though powerful, can be hard to configure.

- Xen - Advanced Virtualization, needs special OS modifications ... way over my head!

- Dual Booting - good solution for many people, not me... I hate rebooting.

- These solutions are **<u>not covered in this presentation</u>**, but are brought up in case they fit your needs better.

For more info...

- VMWare Player

  - http://www.vmware.com/products/player/

- QEMU Hardware Emulation Guide + Website

  - http://www.linux.com/article.pl?sid=05/10/24/1845248

  - http://fabrice.bellard.free.fr/qemu/

- BOCHS Website

  - http://bochs.sourceforge.net/

- XEN Website

  - http://www.cl.cam.ac.uk/Research/SRG/netos/xen/

Thank You!