MH17

VIRTUALIZATION

Hardware virtualization or “platform virtualization” refers to the creation of a virtual machine that acts like a real computer with an operating system. Software executed on these virtual machines is separated from the underlying hardware resources although some hardware can be accessed. A **host** computer running Microsoft Windows can run a **guest** virtual machine that looks and operates like a computer running Linux, MAC OS, DOS, etc.

For large organizations such as corporations and schools, virtualization makes it easy to run identical copies of a virtual machine on different desktop machines and at the end of the day, restore every copy to its original pristine state, without any of the malware or clutter accumulated over the course of use. A virtual machine can be isolated from the Internet and the rest of the network and then used to test any software that might be dangerous.

With a Mac, virtualization software can run Windows productivity software that doesn't have any OS X counterparts. Virtualization software can run old Windows applications that won't run under modern versions of Windows.

There are several software applications that can provide virtualization. VMware, Virtual PC, Wineskin, and Parallels, just to name a few. In this lab Oracle’s VirtualBox, an opensource application will be used.

LAB

1. Boot the PC from your HDD.

2. Go to: **https://www.virtualbox.org/** and download the latest version of Oracle’s VirtualBox for

 **Windows hosts**.

3. Launch the downloaded executable installation file. At the Setup Wizard, <NEXT>.

4. Accept all installation defaults.

5. At each of the Security warnings for device software, <INSTALL>. Uncheck the box to launch

 VirtualBox. Then <FINISH>.

6. In the Device Manager, expand Ports. Verify that there is both COM1 and LPT1.

7. Open the Properties for LPT1 and select the Resources tab. Note the hexadecimal I/O Range of LPT1.

8. Instructor check point \_\_\_\_\_\_

GUEST OS SETUP

1. Use the desktop shortcut to launch VirtualBox.

2. Click the New icon to create a new virtual machine. Type in the name **Win7-32** Use the pull-down

 menu to select the version as Windows 7 (32-bit). <NEXT>.

3. For Memory Size, accept the default of 1024 MB. <NEXT>.

4. For Hard Disk, accept the default to Create a virtual hard disk now. <NEXT>.

5. For the Hard Disk Type, accept the default VDI (Virtual Disk Image). <NEXT>.

6. For Storage on Physical Hard Disk, accept the default Dynamically allocated. <NEXT>.

7. For File Location and Size, accept the defaults. <CREATE>. The Win7-32 virtual machine icon should

 appear in the VitualBox Manager. It is powered off.

8. Instructor check point \_\_\_\_\_\_

INSTALLING A GUEST OS

1. Install a Windows 7 32 bit installation DVD into the optical drive.

2. Double click on the Win7-32 icon to start the virtual machine and install the OS. VirtualBox will find

 the OS install disk in drive D: <START>.

3. At Install Windows, <NEXT>. Then, <INSTALL NOW>. Setup is starting…

4. Agree to the EULA. <NEXT>. Then click <CUSTOM> installation.

5. 25 GB of unallocated disk space should appear. <NEXT>. Installing Windows…this takes some time.

6. At Setup Windows, type in a user name. <NEXT>. Do not create a password. <NEXT>.

7. Select **Ask me later** at the update screen. At **Time and Date settings**. <NEXT>.

8. At the network list, select **Work network**. Setting will finalize and continue…to the desktop.

9. Instructor check point \_\_\_\_\_\_

CONFIGURING the VIRTUAL MACHINE

1. In the Start Menu of the virtual machine, right-click on **Computer** and select **Properties**.

2. Open the Device Manager. Is there a LPT1 Port device?

3. Close the open windows of the virtual machine. Shut down the machine using the standard Windows

 method.

4. In the VirtualBox manager, the virtual machine should be **Powered Off** status.

5. Remove the installation DVD.

6. In the host computer, launch the Command Line environment, **cmd**. Maximize the screen.

7. At the command line, type **cd\** <ENTER> to go to the root directory of the c: drive.

8. At the c:\> prompt, type **cd program files\oracle\virtualbox** <ENTER>.

9. At the prompt, type **vboxmanage** <ENTER>. The huge list of options will be displayed.

10. At the prompt, type **vboxmanage modifyvm “Win7-32” --lptmode1 lpt1** <ENTER>. If this

 command is typed correctly, there will be no error message.

11. At the prompt, type **vboxmanage modifyvm “Win7-32” --lpt1** **0x378 7** <ENTER>. If this command

 is typed correctly, there will be no error message.

12. Instructor check point \_\_\_\_\_\_

13. To close the command line environment, at the prompt, type **exit** <ENTER>.

START the VIRTUAL MACHINE

1. In the VirtualBox Manager, double click on the Win7-32 icon to start the virtual machine.

2. In the Start Menu of the virtual machine, right-click on **Computer** and select **Properties**.

3. In the Device Manager, expand Ports. Is there a LPT1 Port device?

4. Open the Properties for LPT1 and select the Resources tab. Note the hexadecimal I/O Range of LPT1.

5. Instructor check point \_\_\_\_\_\_

6. Close the open windows of the virtual machine. Shut down the machine using the standard Windows

 method.

7. Close the VirtualBox Manager. Shut down the PC. Remove your HDD.