Lab 6

CSCI 451 Computer Security
Department of Engineering and Computer Science
Virginia State University

Fall 2016

Objective

Enhancing the virtual machine created in Lab 2 with VirtualBox Guest Addition and continuing to gain familiarity with virtual machines and Linux

Description

This lab is a series of small labs that help you learn virtual machines that are useful to use as sandboxes to learn many subjects in computer science, including computer security.

In the past two virtual machine labs, you have created a Ubuntu virtual machine and installed GUI and a few useful pieces of software. However, there three features that we desire,

- we can resize the screen of the virtual machine,

- we can copy and paste data between the clipboards of the guest system and the host system,

- and we can drag and drop files between the guest system and the hosts system.

In fact, VirtualBox supports the above functionalities with the help of the VirtualBox Guest Addition.

Following the steps below to install the VirtualBox Guest Addition.

1. Create a *Linked clone* of the *Linux guest system with the simple GUI* you created in VirtualBox following the instruction at https://www.virtualbox.org/manual/ch01.html#clone.

2. Start the clone you just created, log in, and start the GUI (by running `startx`).

3. Open a terminal, and from the terminal install the DKMS (Dynamic Kernel Module Support) package and its dependencies in the Linux guest.

   ```
   sudo apt-get update
   sudo apt-get install dkms
   ```

4. On VirtualBox, click on "Devicies", "Insert Guest Addition CD Image" on the menu. After a while, you should see the Guest Addition CD is mounted. Found out the Guest Addition CD's path (by double-clicking on the CD icon). For the convenience of the discussion, let us assume the path is `/media/csci451/VBOX_ADDITIONS_5.0.26.108824`; however, yours differs, we run the following commands.

```
cd /media/csci451/VBOX_ADDITIONS_5.0.26.108824
sudo ./VBoxLinuxAdditions.run
```

5. Upon successful installation of the VirtualBox Guest Addition, restart the Virtual machine (using `sudo reboot` command from the command line), log back in, and start the GUI again (using `startx`).

6. To enable the copy-and-paste functionality, on VirtualBox, go to "Device", and "Share Clipboard" on the menu, and select the option you desire.

7. To enable the drap-and-drop functionality, on VirtualBox, go to "Device", and "Drag and Drop", and select the option you desire.

8. Test whether you can resize the screen of the guest system, use the copy-and-paste functionality, and use the drag-and-drop file functionality.

Submission

Demonstrate to the instructor that you can (1) resize the screen of the guest system; (2) copy and paste texts using clipboards between the guest system and the host system; and (3) drag and drop files between the guest system and the host system.

   You must demonstrate your completed lab work in class, Monday October 17, 2016.