GSW F21 CSCI 5120
Homework Two MAC Address Spoofing

Due: 11:59 pm on Wednesday November 17, 2021
Submit through GeorgiaVIEW.

- **No late submission**
- **Take a screenshot after each step to record your homework. Put all screenshots, as well as the explanation of each screenshot, in one MS Word file or a PDF file, then upload it to GeorgiaVIEW**.

In this homework, we simulate a MAC (Media Access Control) spoofing attack. MAC Spoofing allows attackers to gain access to a network that utilizes MAC filtering. An access point (AP) is a networking device that allows other Wi-Fi devices to connect to a wired network. When an AP has MAC filtering enabled, only users with MAC addresses in the Access Control List (ACL) are allowed to connect to the AP. The attacker can change his MAC address to be one found in the AP's ACL and connect to the AP. This exercise demonstrates how MAC spoofing is conducted using Win7 MAC Address Changer. In the use case here, an older version V1.9 is used. In this use case, we assume that the OS is Windows.

Win7 MAC Address changer is a simple freeware windows program which can change the MAC address of wired and wireless network adapters (Not routers). Win7 MAC Address Changer was developed to be a very simple utility. Some popular free MAC address changers can be found at https://thegeekpage.com/free-mac-address-changer/.

There are practically many usages of changing the mac address (physical address), such as troubleshooting network problems, software and hardware components, to hide your identity in a network or just for fun. Another practical use is in hotels or airports which filter on MAC address. This allows the public service to 'disable' their 'free' Internet after a period of say 30 minutes or 60 minutes. They then quite often hope that you will purchase additional minutes. Should you are reluctant to pay but need to be online, then following the instructions here will allow you to spoof your MAC address after each expiration period and stay connected for free.

Make sure you have no unsaved work before starting this practical as you may lose access to your network drive for a short period as we have to enable/disable the MAC address in order to reset it.

1. Search and download a MAC address changer online.

2. Install the program and follow the instructions.

3. Launch the program.

4. Open a command window by typing *cmd* in the same program options box.

5. In the command window, type *ipconfig /all.* You can find the MAC address of your network card.

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 C:\WINDOWS\system32\cmd.exe                                    - □ ×
Ethernet adapter Local Area Connection:

        Media State . . . . . . . . . . . : Media disconnected
        Description . . . . . . . . . . . : Broadcom 440x 10/100 Integrated Cont
roller
        Physical Address. . . . . . . . . : 00-10-18-12-34-56

Ethernet adapter Wireless Network Connection:

        Connection-specific DNS Suffix  . :
        Description . . . . . . . . . . . : Intel(R) PRO/Wireless 3945ABG Networ
k Connection
        Physical Address. . . . . . . . . : 00-18-DE-18-3D-A6
        Dhcp Enabled. . . . . . . . . . . : Yes
        Autoconfiguration Enabled . . . . : Yes
        IP Address. . . . . . . . . . . . : 192.168.1.100
        Subnet Mask . . . . . . . . . . . : 255.255.255.0
        Default Gateway . . . . . . . . . : 192.168.1.1
        DHCP Server . . . . . . . . . . . : 192.168.1.1
        DNS Servers . . . . . . . . . . . : 24.25.5.148
                                            24.25.5.147
        Lease Obtained. . . . . . . . . . : Sunday, April 20, 2008 12:00:47 PM
        Lease Expires . . . . . . . . . . : Monday, April 21, 2008 12:00:47 PM

C:\Documents and Settings\Omari>
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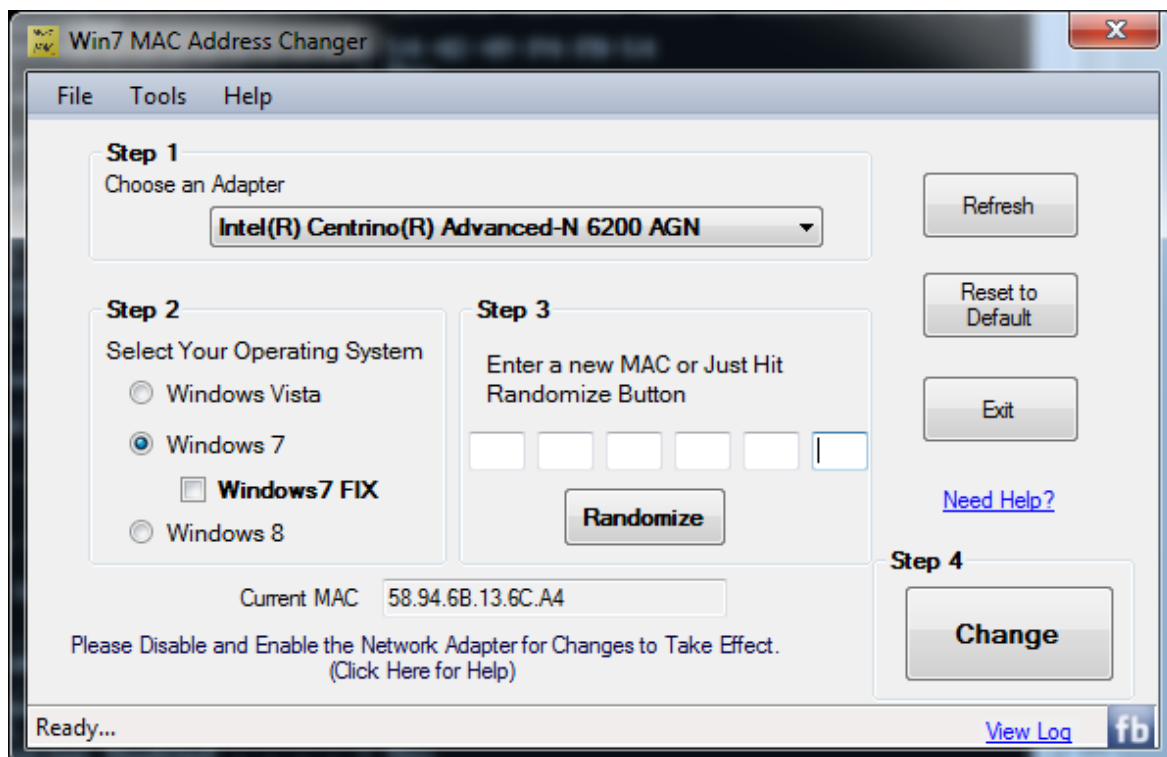
6. Return to the MAC Address changer program and select your interface that needs changing. You should select the main network interface on your machine. Here it is the *Intel Centrino Advanced-N 6200 AGN*. Your main interface may already be selected by default.
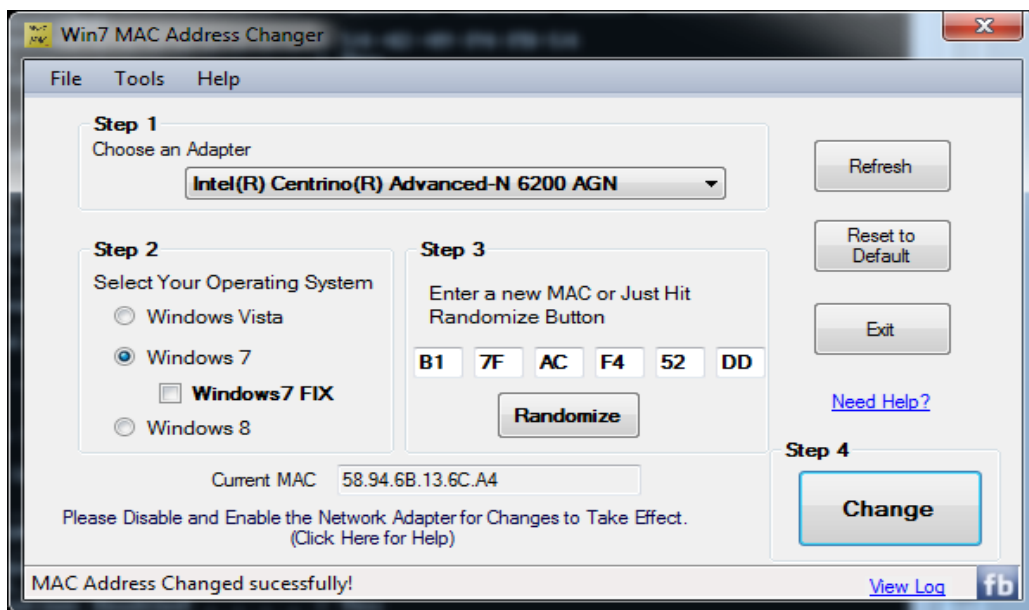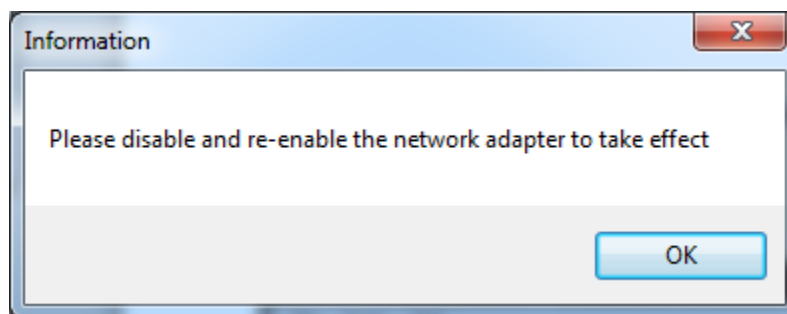
7. Next select the operating system.

8. Next, select the *Randomize* button. This generates a new MAC address according to limitations on MAC addresses.
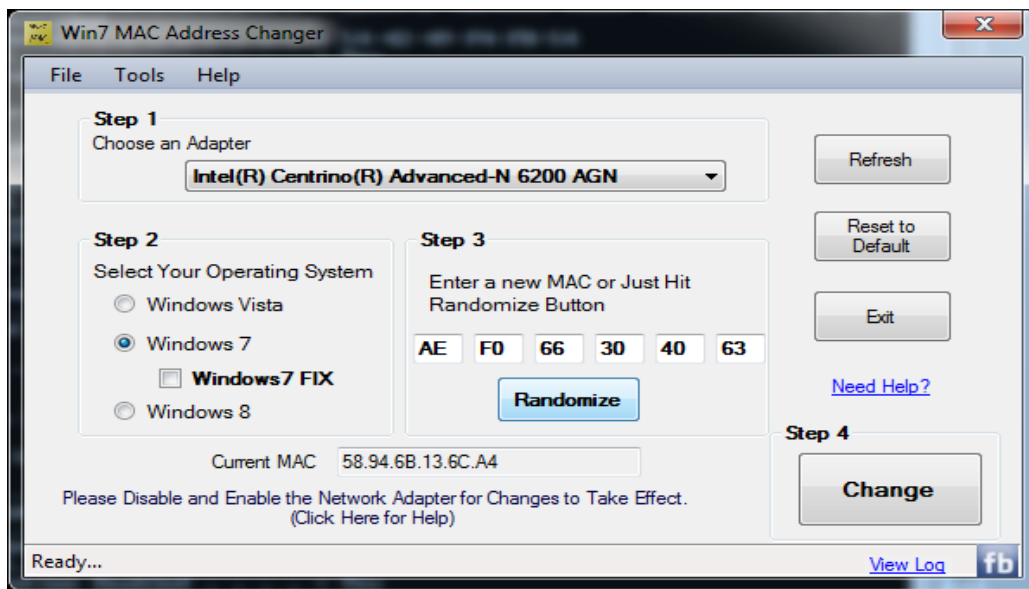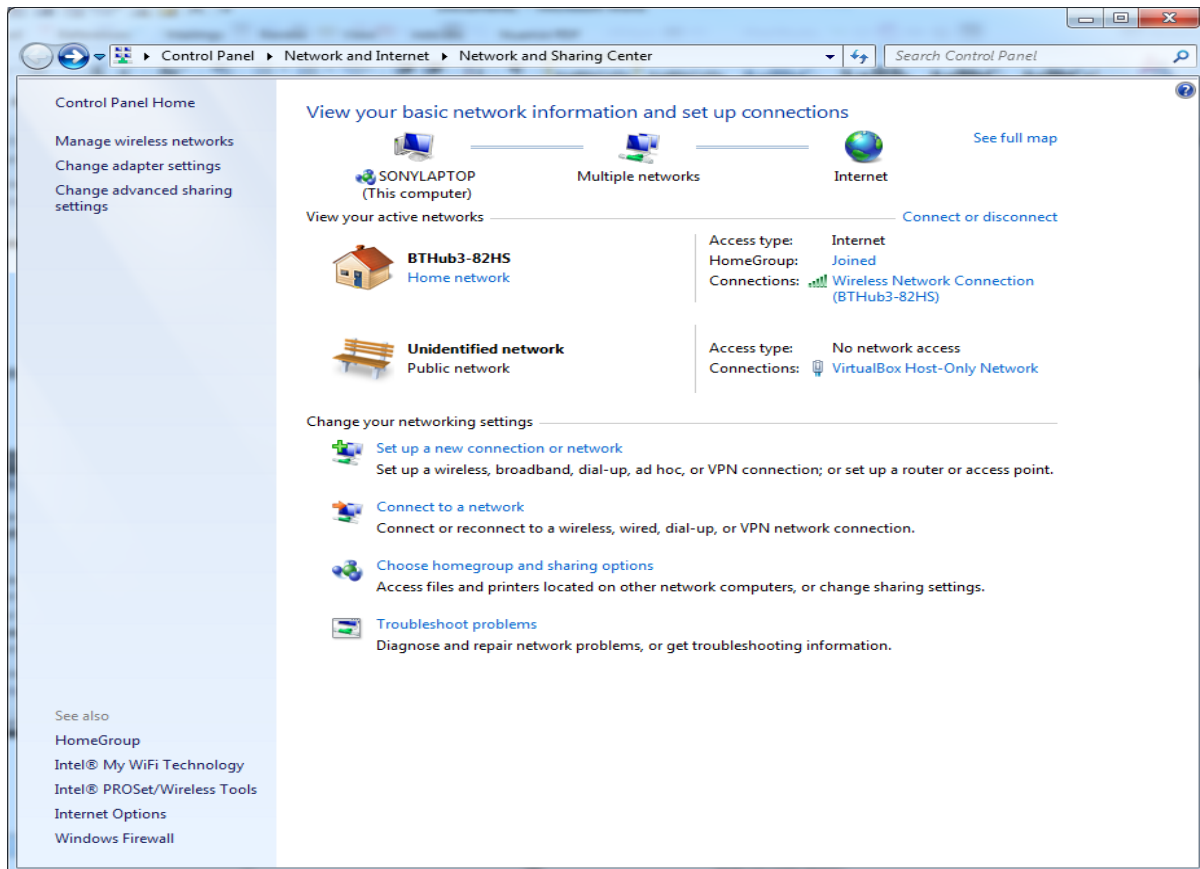
9. Finally, select *Change*. This has now changed your MAC address on the local machine.

10. A pop up window will appear which tells you to disable/re-enable the network interface.

11. This can be done by going to the Network and Internet/Network and Sharing Center in the Control Panel. Then select the Wired or Wireless connection.

12. Here the wireless card properties popup is shown. Select the *Disable* button.
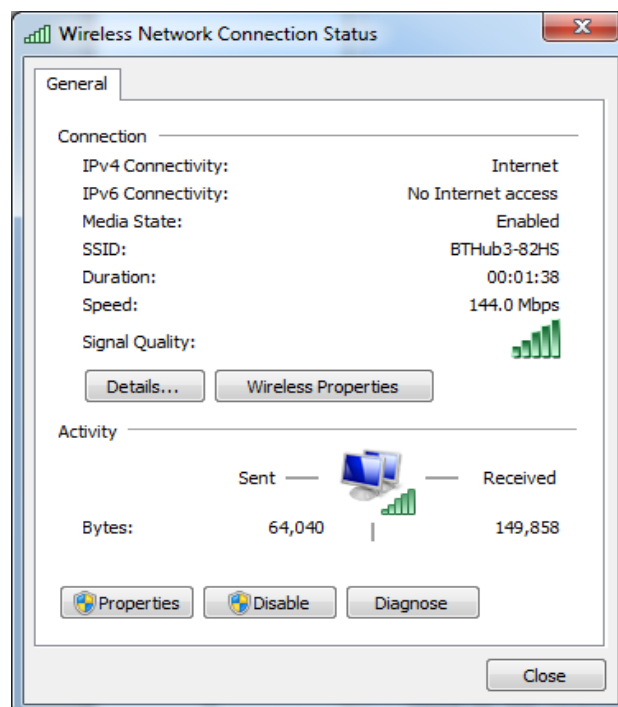
13. The interface has been disabled. Now you need return to *Network Connections* and right click on the disabled interface (here it was the Local Area Network Connection 3) and re-enable it.
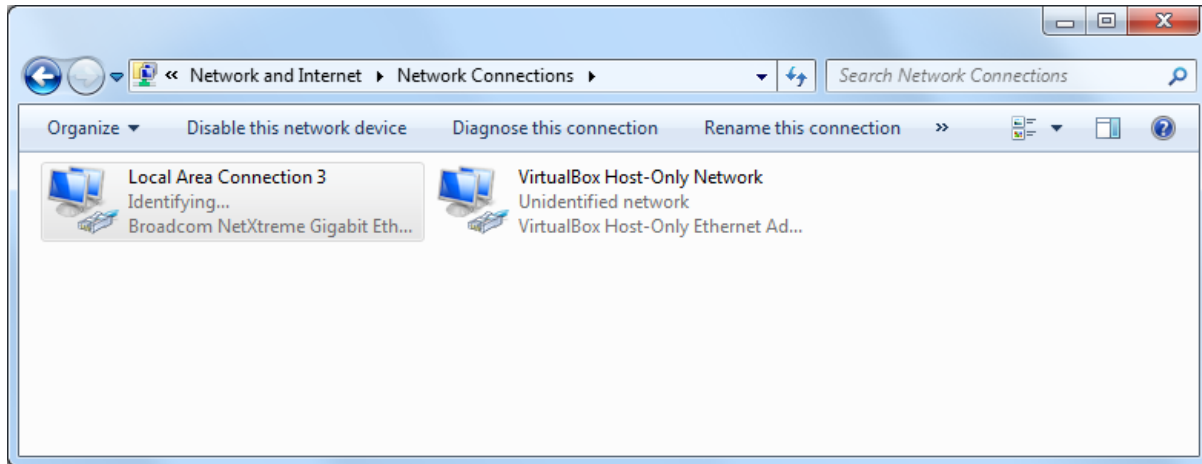
14. Return to the command prompt.

15. Type *ipconfig /all* and check the MAC address designated on the interface that you selected earlier. The MAC address should be now the same on the randomized MAC address provided by the program.

16. Finally, to clean up, change your MAC address back to its previous value by clicking on **Reset to Default** button on Win7 MAC Address Changer.

Please note you may lose your network connection to your network drive for a short time. That is why you should follow the previous step and reset your MAC address to its default value.