**CNA 432/532: OSI Layer Security**

**Fall 2014**

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**Submission due date: September 15**

**Group lab: In groups of 2**

**Lab 1: Implement VLAN tagging attack**

Scapy is a very powerful packet crafter used to craft customized packet headers and payload, and test systems using the crafted packets. Scapy is actually a Python program that has complex logic, and user-friendly commands. The first lab is to use Scapy to implement VLAN tagging attack.

**Implement VLAN tagging attack. Follow steps below:**

1. **Use two Cisco Catalysts 3550/3560; and two computers, one running Linux and the other Windows**
2. **Create VLAN 10 on switch 1**
3. **Assign IP address 10.1.1.254/24 to the VLAN interface on switch 1**
4. **Connect the Linux computer to a switchport of switch 1 (the port needs to be configured to access VLAN 10). Assign appropriate IP address to the Linux computer.**
5. **Connect another port of switch 1 to a port on switch 2 (both ports need to be configured as Trunk ports)**
6. **Create VLAN 20 on switch 2**
7. **Assign IP address 10.1.2.254/24 to the VLAN interface on switch 2**
8. **Connect the Windows computer to a switchport on switch 2 (the port needs to be configured to access VLAN 20). Assign appropriate IP address to the Windows computer.**
9. **On the Linux computer write a Python script using scapy to craft a layer2 frame with double tagging, VLAN 10 as the outer tag, and VLAN 20 as the inner tag (Use IEEE 802.1Q encapsulation)**
10. **Run Wireshark on the Windows computer connected to switch 2, and check whether the frame has been forwarded to switch 2 and picked up by the Windows computer**
11. **Delete VLANs 10 and 20 on the two switches**

**Use Cisco switches and computers in HH213**

Write a detailed report describing the experiment and your findings. Attach the Python script with your report.

Submit the report on September 15 in class.