Networking Lab 2

Due: August 20

Measurements and Statistics

Part 1:

1. Scan the Internet with zmap on port 80. Use the blacklist found at http://64.106.81.7/blacklist.txt. Limit your scan using the -t flag in zmap so that your scan only lasts 2-4 hours. "-t NUMSECONDS".
2. Once the scan is complete systematically find the subnets of each network and group together IP addresses in the same network. Use the `whois` tool.
3. Create a report of the results. Include useful information such as, but not limited to: Number of IPs per network Number of machines responding / number of machines probed Owners
4. For your report, dig in deep into one network . Report what you learned about the network using command line tools. Do not use `nmap -A` it may be seen as an attack. You may slowly scan with zmap using other common ports such as 22 or 443.

Part 2:

Access the 10 websites below, 10 times each, for 3 different connection modes: VPN, TOR browser and regular browser (firefox, chrome, safari...). For each access of a site, be sure to record the network traffic with tcpdump.

For each tuple (connection type, website), plot statistics about the connection, e.g. average packet size, average number of packets sent etc.

Write a comprehensive report stating what you have found. Answer the following questions and include any other important discoveries.

-For each connection type, what is visible to a passive device on the network?

-Can you use the connection statistics to determine which of the 10 websites was visited?

Note 1: You may find tshark helpful to print packet information to the command line, or to an ascii file (`tshark -r test.pcap > readable.txt`).

Note 2: If you don't have access to a VPN, you may use the campus VPN (https://wikis.utexas.edu/display/eceit/UT+VPN)

Websites:

https://en.wikipedia.org/wiki/Cat

https://en.wikipedia.org/wiki/Dog

https://en.wikipedia.org/wiki/Egress_filtering

http://web.mit.edu/

http://www.unm.edu/

https://www.cmu.edu/

https://www.berkeley.edu/

https://www.utexas.edu/

https://www.asu.edu/

https://www.utdallas.edu/