

4. (15 points) A list of lines that were changed and why

The changes were made to update the IP addresses and launch the server and chat for the client hosts. The comments on code will explain the reason why those changes were made.

5. (30 points) Answers to these questions:

- a. What were any interesting findings and lessons learned?

Adding the extra layer security of TLS to the chat and server connection was very interesting. Making a connection more secure within two hosts was for sure one of the best parts of this project.

- b. Why didn't the original program forward packets between the hosts?

Since the IP forwarding was not enabled in the original starter code that is the reason that packets were not being forwarded between the hosts.

- c. Is the line ' r3.cmd('sysctl -w net.ipv4.ip\_forward=1') ' required?

Yes, since we want to enable the traffic between the network interfaces and subnets. This line of code allows IP forwarding on 'r3' which enables packets to be forwarded in the network interfaces and subnets.

- d. Intentionally break your working program, e.g.: change a subnet length, IP address, or default route for a host. Explain why your change caused the network to break.

The reason that the network breaks is because the network host is now not in a valid range for the subnet. When we change the IP address of the router the hosts are not able to send traffic outside the local subnet.