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INFO 341

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Lab 4: IP Addressing/DHCP

For this week’s lab, we used the ethernet cables as well. We configured our IPs manually in the settings of our machines. We went to the Local Area Connection properties and selected internet protocol version 4 (TCP/IPv4). We had to specify the IP address, the subnet mask, and default gateway.

A dynamic IP address is an IP address dynamically assigned to your computer by your ISP. Each time your computer (or router) is rebooted, your ISP dynamically assigns an IP address to your networking device using the DHCP (Dynamic Host Configuration Protocol). Dynamic IP addresses change and are cheaper for the ISP and the customer. It’s the most efficient use of IP addresses for the ISP, and is good for mobility. They give you more privacy as well, and protection. If your IP changes over time, malicious people won’t know your IP. Static IPs are really good for dedicated services like email, FTP, and VPN servers. You don’t want the IP to change so you can easily access the servers you need. However, they are more expensive, and hackers find it easier to launch DDoS attacks on an IP that doesn’t change.

The changes need to be made to the end systems. The end user’s computer configurations need to to be manually configured to support static or dynamic IPs.

To setup a DHCP address pool, you would need to first configure a DHCP server. After that, you would be able to specify the address pool range, and define the default and maximum lease times. It is important to specify address ranges because they define what the actual pool of addresses are and groups them into the DHCP service. DHCP lease time is set by the DHCP server. After lease time, a new ip address is assigned. The DHCP address range is the range of IP addresses that the DHCP server can assign to network devices. IP addresses outside of the DHCP address range are reserved for statically addressed computers.