LAB(1)

Report 2

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Introduction:

In this lab, we will delve deeper into networks, learn about the types of networks and their topologies, learn about placing the appropriate network in the right place, the function of each component in the network, and the most important tools that connect them to each other.

Reflection Questions

1. What is the most common topology used in LANs?

Answer: Star topology

2. Which of the following media has higher bandwidth UTP or fiber optics?

Answer: Fiber optics

3. Which network"s type can be used for implementing a university campus network?

Answer: LAN – local area network

4. What is difference between a hub and a switch?

Answer: A switch connects several devices in a network using the OSI data link layer, whereas a hub uses the OSI physical layer to transfer data packets to all connected devices. Additionally, switches maintain device information and use MAC addresses to transport data while hubs don't. The last difference is that switches allow several devices to

communicate data simultaneously, whereas hubs only allow one device to do so.

5. What is the difference between routers and switches?

Answer: Switches connect devices inside the same network, whereas routers connect devices from separate networks. Additionally, switches employ MAC addresses for data transport while routers use IP addresses. Finally, switches works on OSI data link layer whereas routers works on OSI network layer.

6. What is a firewall?

Answer: firewall is a system or group of systems that manages access between two or more networks. It is also a network security device that keeps track of incoming and outgoing network traffic and chooses whether to let or block particular traffic in accordance with a predetermined set of security rules.

7. List 4 cabling tools with pictures.
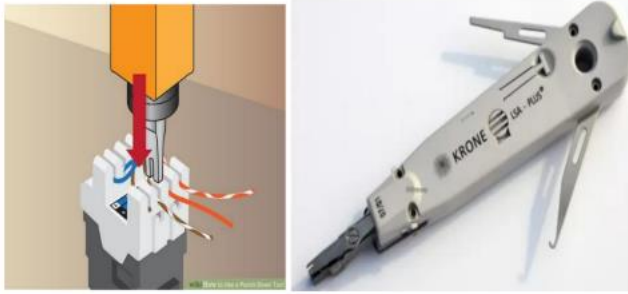
Answer: 1-Wire Cable Crimper

2-Wire Stripper

3-Punch Down Tool

4-Cable Tester

Conclusion(including what I have learned):

at the end, The network has several types that differ in the way they operate. We saw how each type works and where in this lab. We learned about the types of network topologies and how data is sent between nodes. In addition, we saw the most important physical components of the network and how they connect networks. Finally, we learned what cables to use for these components.