University of Luzon
Graduate School
Master in Information Technology

Network Administration
Case Study 2

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WIRED LAN

1. Flex the cable at the back of the PC and watch the link LED to test the RJ-45 connector.
   - In this scenario once the RJ-45 is plugged into your PC and you want to verify it, you can see a flickering light on the RJ-45 if the link is OK.

2. Check crossover (X) port wiring.
   - In this scenario, when you connect a new hub to a LAN network, you need to verify your crossover-built RJ-45 to build a computer-to-computer connection, switch to switch, etc.

3. Physical layer (cables, devices)
   - In this scenario in wired networks, the physical layer is critical because sharing available communication facilities is efficient and helps prevent disputes between multiple users. To boost the flow of information between a sender and recipient, it also manages the transmission rate

4. Clone setup from good workstation
   - In this scenario, clone configuration is complete for a computer, so you can quickly restore the data in the clone computer until your computer is lost.

5. Add Repeaters re-route cables
   - In this scenario, It is helpful for a person who wants to expand their link to another place to install a repeater and redirect cables.

6. Update driver, replace the card, see conflict resolution.
   - In this scenario, an upgraded driver may solve both the physical layers and any device or laptop issues. Any drivers that are absent when formatting a desktop or machine. But you need an updated driver to correct a problem on your laptop or computer.

7. Swap hub for the switch, check server utilization.
   - In this scenario, you can attach a hub or connect to either of the LAN ports to extend your network. Although the switch is an active device, the hub is a passive device while the switch is an active device, and both the hub and switch are used in the LAN.

8. If the connection is stable on the new port, the prior port is failing
   - In this scenario, you could be "losing your lease," whether the issue is not with your home network or PC settings, which means that your PC has missed the IP address given by the cable provider for whatever reason. (Launch Run and enter 'cmd' then 'ipconfig/all'). Check your IP address. You could have lost your lease if it begins with 192 or 10.

9. Proceed to motherboard performance
   - In this scenario, the motherboard option has little impact on results without considering overclock ability. This productivity will come from overclocking the CPU, which can produce more FPS in games. It enhances FPS and boosts efficiency across the board by

overclocking.

10. Bad patch or in-wall cabling
    - In most cases, the Ethernet cable and patch cable are for copper networks. But the latter is typically shorter, from the switchboard to your patch panel.

11. Most likely, software conflicts setup virus
    - In most cases, Malware, including malware, adware, spyware, browser hijacking software, and bogus protection software, is a catch-all word for various malicious software. Once activated on your computer, these applications will seriously impact your privacy and the protection of your computer. For instance, malware is known to relay sensitive information to advertisers and other third parties without user permission. Some applications are also known to contain worms and viruses that do a lot of harm to computers.

12. Throw out old adapter
    - In this scenario, you ought to change it to purchase a new one if you have a low-cost adapter since a low-cost adapter does not follow the relevant safety requirements, and charging with such adapters may pose a risk of death or injury.

WIRELESS LAN

1. Wireless enabled router active, range, hidden network.
    - This scenario will test if the wireless is enabled to access a Wi-Fi source, if the device of the Wi-Fi source is still compatible with the receiver's frequency, and if the network SSID is available or hidden.

2. Password or protocol incorrect
    - This scenario will tell us if the password of the source is valid so that we have the authorization to authenticate and obtain the IP address and have an internet connection

3. Add Mac to approved table modify firewall setting.
    - In this scenario, the MAC address is one of the important address to be aware of because some of the users are not the authorized to connect on the Internet and because of the technology right now many unauthorized users are connected without prior notice

4. Check network or Internet is live at the wireless router
    - In this scenario, we need to see if the wireless router has a connection on the Internet; some routers are wireless, and some are not.

5. Restore default settings; if wired connection doesn't work, Wi-Fi won't work
    - In this scenario, we need to restore the default network setting to get the actual status of our device and also the source of the Internet because if the receiver device has a modified setting and the receiver is on default, there might be some problem

6. Try updating the driver for your Wi-Fi adapter. For Internet-related issues, see Modem Performance flowchart.
    - In this scenario, we need to check the driver of our laptop or desktop if it is still updated or working device manager is the key with this situation, and with this issue, there is also a need to reinstall some drivers.

7. Router failing, bridge to network or internet connection bad
    - In this scenario, if we already checked the laptop or desktop on the network setting back to default and the driver working, that's the time to check on the source if we have a good condition router.

8. Interference, PC Wi-Fi adapter bad. PC location out of range, router Upgrade all network hardware to the latest standard
    - In this scenario, we need to see the devices near our sender or the source. If there are interferences such as a baby monitor or phone that has an infrared, we need to put them away like 5m away to prevent interferences.