ELECTRICAL ENGINEERING DEPARTMENT
E5124 – DATA COMMUNICATION

EXPERIMENT   : 2(c)
TITLE   : SMALL LAN NETWORK (USING SWITCH)
OBJECTIVE   : At the end of this experiment, student should be able to :
                      1. Build up the LAN network using switch

MATERIALS

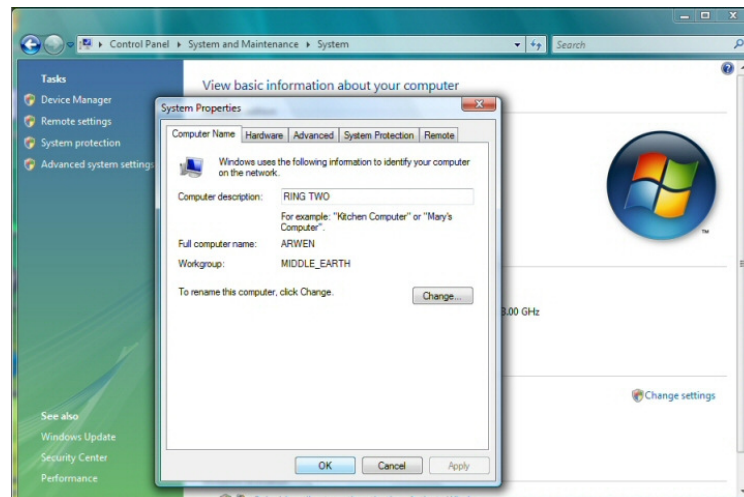
Computer

Cross cable & Straight cable

3 Switch

PROCEDURES :

a)   Setting up workgroup

1.   To enable your pc to share files or hardware, you have to join a same workgroup with another pc in the network.
2.   Go to **Control Panel > System and Maintenance > System** to create or change your workgroup setting (as shown below).

3.   Under **Computer name, domain, and workgroup settings**, click **Change Setting**. In the Change Tab, change your setting with :

      Computer name : *your group* (KUMPULAN A)
      WORKGROUP   : *your class* (DTK6/DKE6)

b)   Managing the hardware (setting up peer-to-peer)

4.   Connect all pc to create small LAN using switch and both cable. (*make sure the cable is already tested and switch box is on*)

b)   Change TCP/IP setting (using DHCP setting)

5.   Click **Control Panel>Network and Internet>Network and Sharing Center**. On the left side, click **Change Adapter Settings.**

6. Double click on the **Local Area Network Icon**, choose **Internet Protocol Version 4 (TCP/IPv4) Properties**.
7. Specify an IP address with given IP address (*from labsheet 2(a)*). Click **Use the following IP address**, and then, in the **IP address**, **Subnet mask** and **Default gateway** boxes, type the IP address settings. Click Ok
8. Test your connection using Command Prompt.

c) Testing the TCP/IP Connection

9. To test the **network** connection, use the Ping command line utility on the pc. Open an **MS-DOS**/**Command** window and type one of the following:

C:\>ping (IP address)

The expected output from Ping looks like the following:

C:\>ping 150.100.100.10

   Pinging 150.100.100.10 with 32 bytes of data:

   Reply from 150.100.100.10: bytes=32 time=10ms TTL=254
   Reply from 150.100.100.10: bytes=32 time<10ms TTL=254
   Reply from 150.100.100.10: bytes=32 time<10ms TTL=254
   Reply from 150.100.100.10: bytes=32 time<10ms TTL=254

d) Sharing folder and files
In Windows, you are enable to share files or folder with other pc in same network

10. Share files or folders with other 2 pc that connected with your pc in the same network.

Discussion

1. Test your network and show the result in the command prompt in your report
2. Explain step by step how to share files or folders with other pc in the same network. Show the result in your report

* Tips if you face any problem in managing your LAN

- *Establish that everything is plugged in and devices powered up and no warning lights are flashing on routers etc.*
- *Check cables are firmly inserted into sockets in PCs and hubs or switches - a light should appear if communication is established. Try swapping ports on the hub or switch in case the port is not working*
- *If one PC isn't seeing the network try swapping over the network cable from another machine that is " In the Control Panel System settings, check the network card is installed properly - there may be a yellow exclamation mark next to it if it isn't*
- *Make sure your computer names are unique*
- *If you are using fixed IP addresses then make sure you haven't given two PCs the same number and make sure that the first three sets of numbers you use are identical*
- *Check network protocols in the network settings in Control Panel - Networks (or Network and Dial Up Connections)*
- *If you can't print to a shared printer then ensure that the PC which the printer is attached to is turned on*