**Experiment No**: 01

**Title**: Configuration & Implementation of Hybrid Topology

**Problem Statement:**

To learns how to configure multiple pc to connect to switch for packet transmission in Cisco packet tracer simulation software.

**Objective:**

Multiple devices are connected with switches. We will build a network between the devices via switches and devices so that we can send massages or data using that network.

**Hypothesis:**

At first we made a proper connection by setting up IP address of each PC and provide a Next hope IP address for packet transmission.

**Materials:**

Cisco Packet Tracer Software

**Devices:**

1. 13 Switches
2. 16 PC
3. Copper straight cable
4. Copper Cross-Over cable
5. Serial DCE

**Procedure:**

* Design the connection using Cisco Packet Tracer Software like figure 1

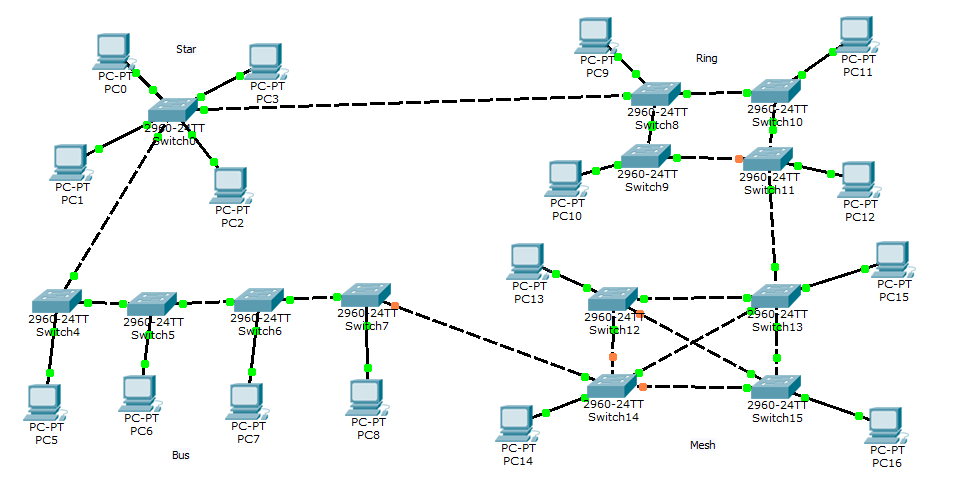


Figure: 01

* Connect 16 pc with 13different switch(2960)
* And then each switch connect with 1 pc(in Bus, Mesh, Ring) (2960)
* And then each switch connect with 4 pc (in Star) (2960)
* **IP Configuration:**

**PC0: PC1:**

IP: 192.168.0.1 IP: 192.168.0.2

Subnet mask: 255.255.255.0 Subnet mask: 255.255.255.0

**PC2: PC3:**

IP: 192.168.0.3 IP: 192.168.0.4

Subnet mask: 255.255.255.0 Subnet mask: 255.255.255.0

**PC5: PC6:**

IP: 192.168.0.5 IP: 192.168.0.6

Subnet mask: 255.255.255.0 Subnet mask: 255.255.255.0

**PC7: PC8:**

IP: 192.168.0.7 IP: 192.168.0.8

Subnet mask: 255.255.255.0 Subnet mask: 255.255.255.0

**PC9: PC10:**

IP: 192.168.0.9 IP: 192.168.0.10

Subnet mask: 255.255.255.0 Subnet mask: 255.255.255.0

**PC11: PC12:**

IP: 192.168.0.11 IP: 192.168.0.12

Subnet mask: 255.255.255.0 Subnet mask: 255.255.255.0

**PC13: PC14:**

IP: 192.168.0.13 IP: 192.168.0.14

Subnet mask: 255.255.255.0 Subnet mask: 255.255.255.0

**PC15: PC16:**

IP: 192.168.0.15 IP: 192.168.0.16

Subnet mask: 255.255.255.0 Subnet mask: 255.255.255.0

* Here all the PCs are connected to the different networks and routers connect them. All the configurations are properly done that’s why the connections are green.
* Select message option and select the sender and receiver
* If the connections are properly made and networks are properly set then we can send packet from one network to another.

**Discussions:**

* We must check all the connections and IP addresses to ensure successful data transfer.
* If the number of computer increases then the communication will become more complex.
* Switching speed is an important factor here.