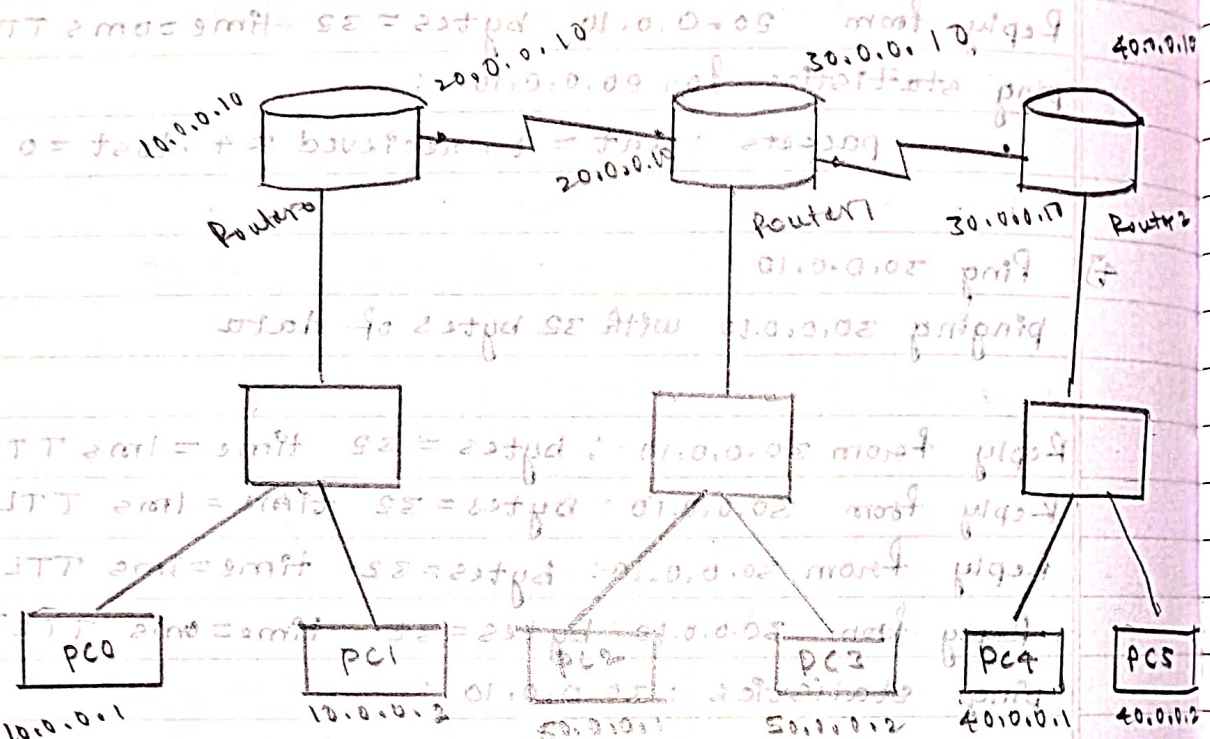
Topology :-


10.0.0.10
20.0.0.10
20.0.0.20
30.0.0.10
30.0.0.20
40.0.0.10
Router0
Router1
Router2
PC0
PC1
PC2
PC3
PC4
PC5
10.0.0.1
10.0.0.2
40.0.0.1
40.0.0.2

Lab-3

chandra's
Dt: Pg:

Aim: Configuring default route to the router

Procedure:

→ Place 6 generic PC's, 3 switches and 3 routers and connect two PC's to each switch with copper straight through wire and each switch is connected to one router with a copper straight through wire and 3 routers are connected among themselves by serial DCE cable and the nodes are placed for all the devices and networks

→ PC is clicked to set attributes for a PC and each PC has 3 attributes which are the IP addresses and the gateway and all the three are set according to the nodes placed. thus process is done for all the 6 PC's.

→ For Router 1, the config are done in the CLI. the IP address and subnet mark are done/set for both the interface fastethernet 0/0 as 10.0.0.10 and 255.0.0.0 and serial 2/0 as 40.0.0.1 & 255.0.0.0. Router 2 is default router for Router 1 and this is done by the command IP route 0.0.0.0 0.0.0.0 40.0.0.2

→ For Router 2 the IP address and subnet mode are set - for all 3 interfaces fast ethernet 0/0 as 20.0.0.3 & 255.0.0.0 and serial 2/0 as 40.0.0.2 & 255.0.0.0 and serial 3/0 as 50.0.0.1 & 255.0.0.0

chandra's
Dt: Pg:

Router 2 doesnot have any default router and static routing is done for the network 10 & 40 by the following cmd ip route 10.0.0.0 255.0.0.0 ip route 30.0.0.0 255.0.0.0 50.0.0.2

→ Router 3 is configured in both the interfaces with ip address and subnet mode as fastethernet 0/0 with 30.0.0.10 and 255.0.0.0 and serial 2/0 with 50.0.0.1 & 255.0.0.0 the default router for router3 router2 & thus set by the cmd:-
IP route: 0.0.0.0 0.0.0.0 50.0.0.1

→ ping cmd is executed from 10.0.0.1 to 20.0.0.1 & from 10.0.0.1 to 30.0.0.2

Observation :

Learning outcome:-

→ one router cannot have two default routes
→ The default router for first router is the middle router because any packets which have to be delivered. will go to middle router
→ The default router for 3rd router is the middle router for the same reason
→ The middle router doesnot have default route because if one of the router is made default then there is a chance that the packets which are to be sent to the switch are sent to the router

chandra's
Dt: Pg:

Result:-

ping 20.0.0.1

pinging 20.0.0.1 with 32 bytes of data

Request timed out
Reply from 20.0.0.1 : bytes=32 , time = 1ms, TTL=126
Reply from 20.0.0.1 : bytes = 32, time = 2ms, TTL = 126
Reply from 20.0.0.1 : bytes=32, time=6ms, TTL=126

ping 30.0.0.2

pinging 30.0.0.2 with 32 bytes of data
Request timed out
Reply from 30.0.0.2 : bytes = 32 , time = 4ms, TTL=125
Reply from 30.0.0.2 : bytes = 32 , time = 4ms, TTL=125
Reply from 30.0.0.2 : bytes=32, time=4ms, TTL=125

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