Department of Computer Science and Engineering

Experiment Name: Implementation of OSPF

Experiment No: 10

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1 Objective

The Objective of the lab is to test the open source shortest path algorithm.After configuring the network packets will pass throgh the closest router.

2 Network Diagram

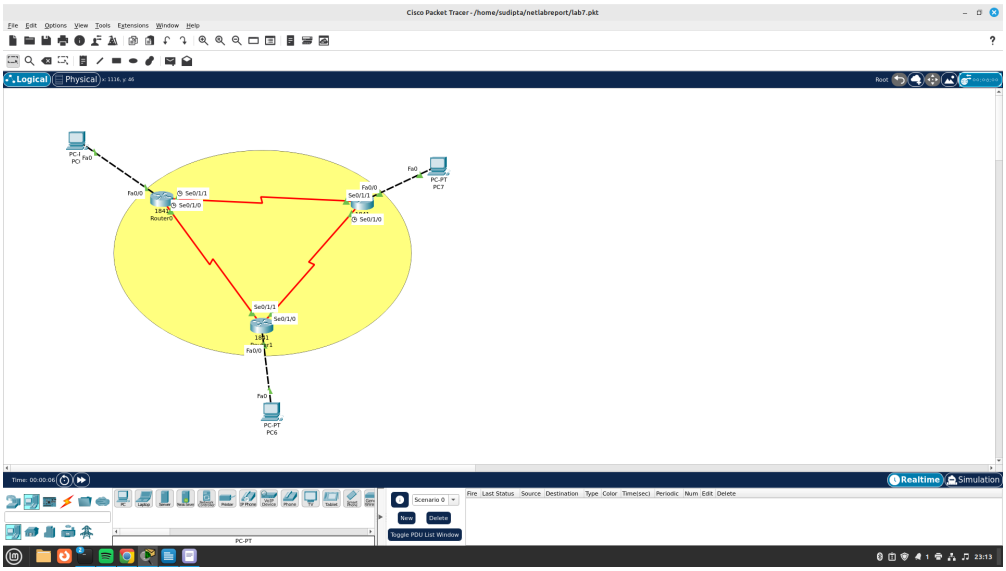

Figure 1: Network Diagram

3 Procedure

The network is configured using routers and pcs.The router commands are written below.

3.1 Router 1

```
Router>en
Router#conf t
Router(config)#int fa 0/0
Router(config-if)#ip ad 192.168.1.2 255.255.255.0
Router(config-if)#no shut
Router(config-if)#exit
Router(config)# int se0/1/0
Router(config-if)#ip add 192.168.6.1 255.255.255.0
Router(config-if)#no shut
Router(config-if)#exit
Router(config)# int se0/1/1
Router(config-if)#ip add 192.168.8.2 255.255.255.0
Router(config-if)#clock rate 64000
Router(config-if)#no shut
Router(config-if)#exit
Router(config)#exit
Router#
Router#copy running-config startup-config
```

```
Router#
Router#conf t
Router(config)#router ospf 1
Router(config-router)#network 192.168.1.0 0.0.0.255 area 0
Router(config-router)#network 192.168.6.0 0.0.0.255 area 0
Router(config-router)#network 192.168.8.0 0.0.0.255 area 0
Router(config-router)#
```

3.2 Router 2

```
Router>en
Router#conf t
Router(config)#int fa 0/0
Router(config-if)#ip add 192.168.2.2 255.255.255.0
Router(config-if)#no shut
Router(config-if)#exit
Router(config)#int se0/1/0
Router(config-if)#ip add 192.168.7.1 255.255.255.0
Router(config-if)#no shut
Router(config-if)#exit
Router(config)# int se0/1/1
Router(config-if)#ip add 192.168.6.2 255.255.255.0
Router(config-if)#clock rate 64000
Router(config-if)#no shut
Router(config-if)#
Router(config-if)#exit
Router(config)#exit
Router#copy running-config startup-config
Router#conf t
Router(config)#router ospf 1
Router(config-router)#network 192.168.2.0 0.0.0.255 area 0
Router(config-router)#network 192.168.7.0 0.0.0.255 area 0
Router(config-router)#network 192.168.6.0 0.0.0.255 area 0
Router(config-router)#
```

3.3 Router 3

```
Router>en
Router#conf t
Router(config)#int fa 0/0
Router(config-if)#ip add 192.168.3.2 255.255.255.0
Router(config-if)#no shut
Router(config-if)#exit
Router(config)# int se0/1/0
Router(config-if)#ip add 192.168.7.2 255.255.255.0
Router(config-if)#clock rate 64000
Router(config-if)#no shut
Router(config-if)#exit
Router(config)# int se0/1/1
Router(config-if)#ip add 192.168.8.1 255.255.255.0
Router(config-if)#no shut
Router(config-if)#exit
```

```
Router(config)#exit
Router#copy running-config startup-config
Router#
Router#conf t
Router(config)#router ospf 1
Router(config-router)#network 192.168.3.0 0.0.0.255 area 0
Router(config-router)#network 192.168.8.0 0.0.0.255 area 0
Router(config-router)#network 192.168.7.0 0.0.0.255 area 0
Router(config-router)#
```

4 Result

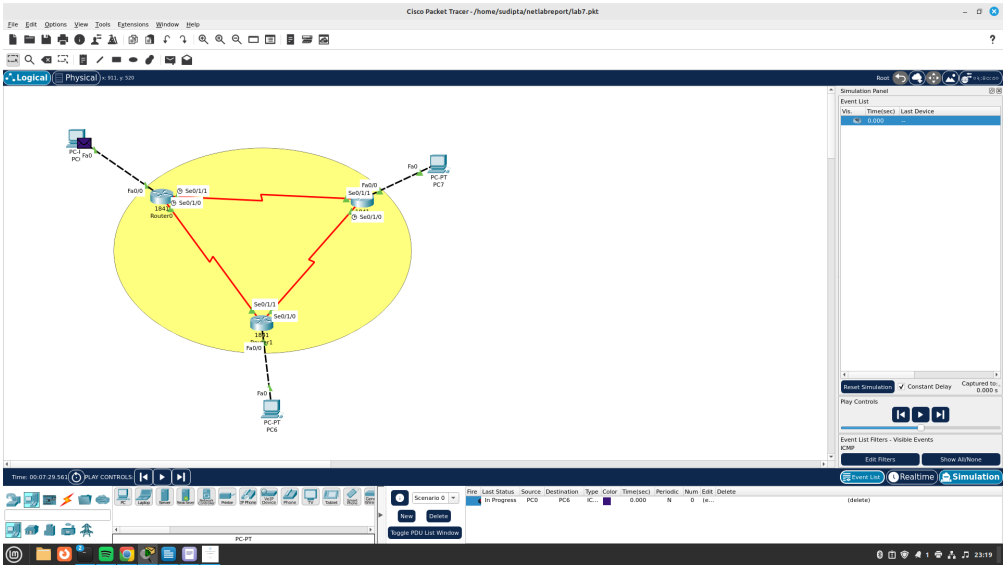

Figure 2: Sending ICMP packet from the source pc

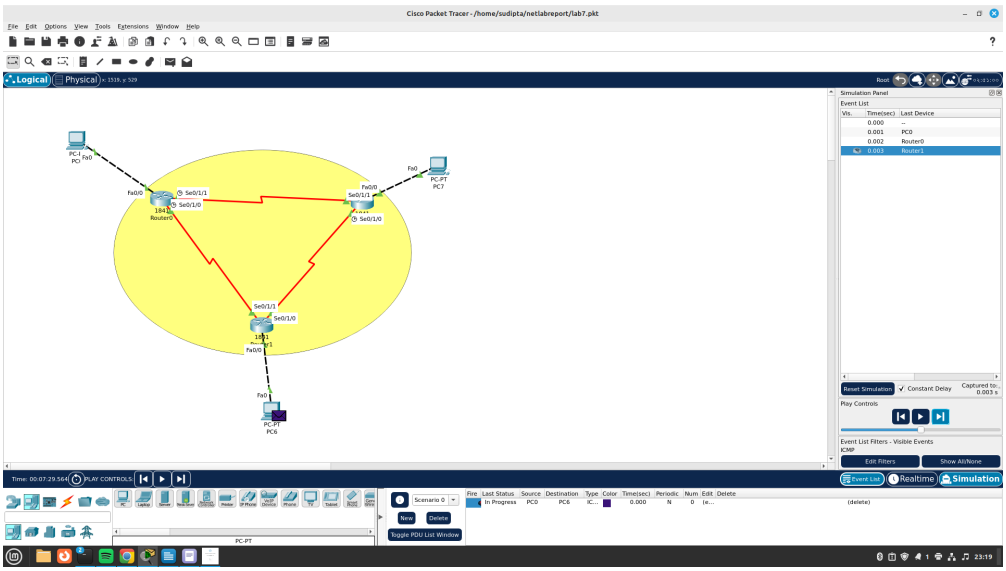

Figure 3: The ICMP packet reached the destination

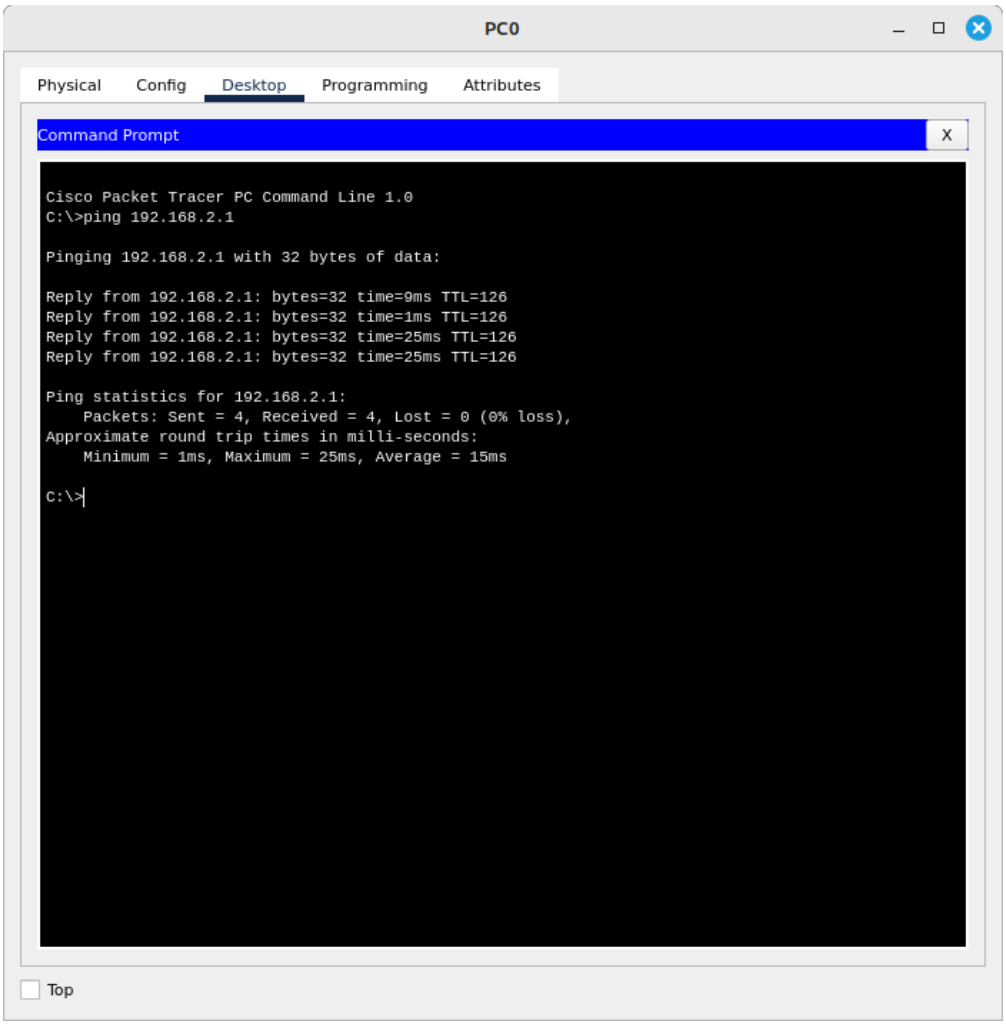

Figure 4: Checked using ping command