

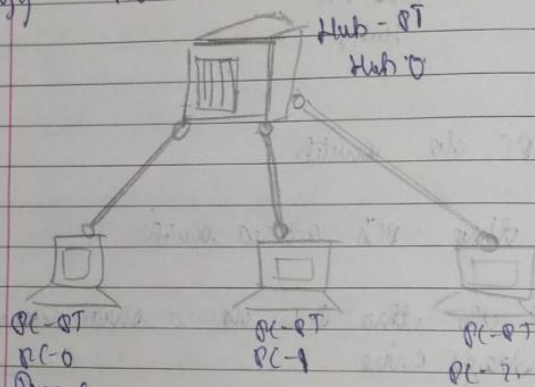
CN LAB-1

Observation-

LAB-2

aim- Create a topology ~~from~~ hence simulate a simple PDV from a source to destination using hub which uses as connecting domains

Topology - HUB to PC's



Procedure

1. Select three PC and a hub.
2. Connect 3 PCs to a hub using copper straight through wire.
3. Set the IP address of PCs to 10.0.0.1, 10.0.0.2 & 10.0.0.3.
4. Now select the source & destination PC. Set destination from PC 0 to PC 2 and send a simple PDV packet and play it on simulation mode.

Observation in simulation mode.

- PC 0 sends packet to hub and hub sends it to both PC1 and PC2
- PC1 discards the message while PC2 accepts it
- PC2 sends acknowledgement packet back to hub
- This again sends it to PC0 and PC1
- PC1 discards it and PC0 accepts it

Output

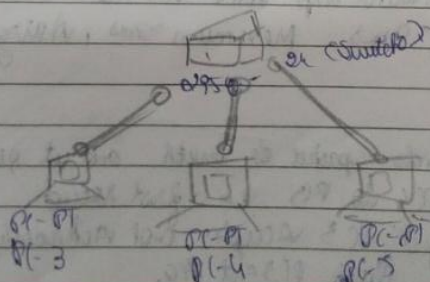
Packet Tracer: C Command Line 1.1

Reply from 10.0.0.2: bytes=32 time=0ms TTL=70
Reply from 10.0.0.2: bytes=32 time=0ms TTL=128
Reply from 10.0.0.2: bytes=32 time=3ms TTL=128
Reply from 10.0.0.2: bytes=32 time=0ms TTL=128

Big Statistics for 10.0.0.2

Packets: Sent=4, Received=4, Lost=0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum=0ms, Maximum=3ms, Average=0ms

Topology - Switch to PC's



Procedure.

- 1) Select 3 PCs and a switch
- 2) → Connect the PCs to the switch using copper straight run
- 3) Set the IP address of the three PCs as 10.0.0.4, 10.0.0.5, 10.0.0.6
- 4) Now select the source & destination PCs for instance from PC-3 to PC-5
- 5) and send a ping packet

Observation in simulation mode

- PC3 sends packet to switch

Output

Reply from 10.0.0.6: bytes=32 time=0ms TTL=64
 Reply from 10.0.0.6: bytes=32 time=0ms TTL=64
 Reply from 10.0.0.6: bytes=32 time=6ms TTL=64
 Reply from 10.0.0.6: bytes=32 time=3ms TTL=64

Ping statistics for 10.0.0.6

Packets: Sent=4, Received=4, Lost=0 (0% loss)

Approximate round trip times in ms

Minimum=0ms Maximum=3ms Average=0ms

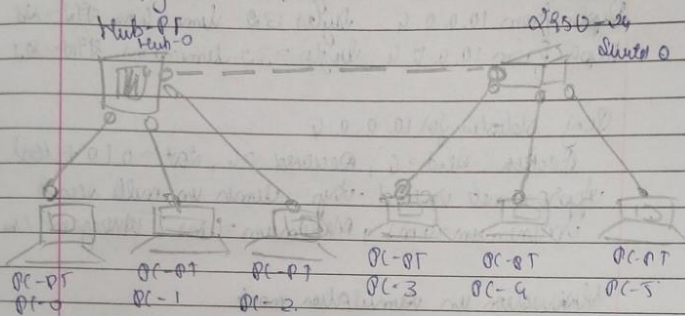
Observation

PC3 sends packet to switch and it sends to switch PC4 to PC5 via first round

PC4 sends PC5 accepts and acknowledge packet to switch PC3 and PC4.

PC4 discards it and it accepts
Now when PC3 sends packet it sends reply to PC5.

Topology - PC, Hub & Switch



Procedure:

- 1) Select 6 PCs, 1 hub & a switch.
- 2) Connect the first three PCs and a hub with copper straight wire and the next 3 PCs and a switch with a copper straight wire.
- 3) Now connect the hub and switch with copper cross over wire.
- 4) Now send a ping packet from PC0 to PC4.
- 5) Set the IP address of PCs to 10.0.0.1, 10.0.0.2, 10.0.0.3, 10.0.0.4, 10.0.0.5, 10.0.0.6.

Output

Reply from 10.0.0.4: length = 32, time = 0ms, TTL = 64
 Reply from 10.0.0.4: length = 32, time = 0ms, TTL = 63
 Reply from 10.0.0.4: length = 32, time = 4ms, TTL = 62
 Reply from 10.0.0.4: length = 32, time = 0ms, TTL = 62

Perf statistics for 10.0.0.4

Packets: sent = 4, received = 4, lost = 0 (0.0%)
 Approximate round trip times in milliseconds
 Minimum = 0 ms, Maximum = 4 ms, Average = 1 ms

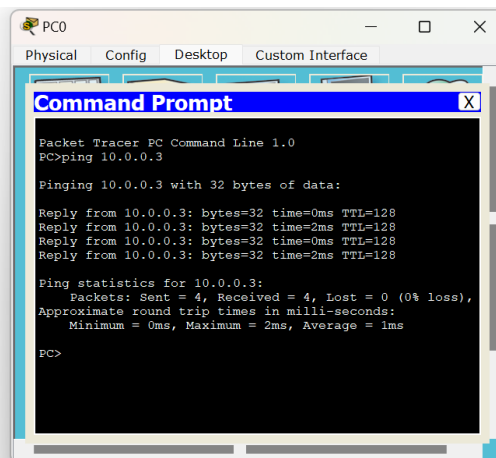
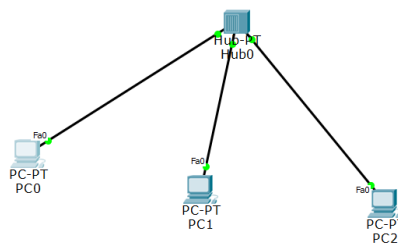
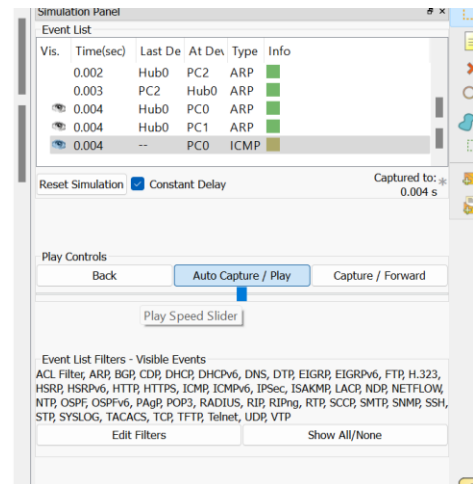
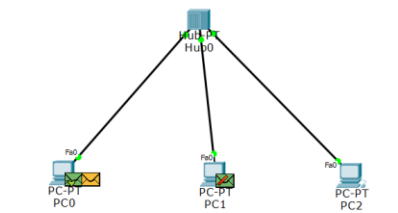
Observation in simulation mode

- In simulation mode PC 0 (Hub) packed the hub
- Hub sends it to PC1 and PC2 and switches
 broadcast it to PC3, PC4 and PC5
- PC3 accepts and sends acknowledgement to
 hub through switch
- Hub then broadcast it to all 3 PCs
- Only PC0 accepts it and others discard
- In second round PC0 sends packet to
 hub. Hub's broadcast to PC1, PC2, switch
- Now switch broadcast it only to PC3
- Thus switch is smart device

ND
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Topology & output

1.Hub and PCs



2.Switch and PCs

Simulation Panel

Vis.	Time(sec)	Last De	At Dev	Type	Info
	0.004	Hub0	PC1	ICMP	
	0.004	Switch0	PC3	ARP	
	0.004	--	PC3	ICMP	
	0.005	PC3	Switch...	ICMP	
	0.006	Switch0	PC5	ICMP	

Reset Simulation ☒ Constant Delay Captured to: 0.006 s

Play Controls: Back Auto Capture / Play Capture / Forward

Event List Filters - Visible Events
 ACL Filter, ARP, BGP, CDP, DHCP, DHCPv6, DNS, DTP, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, LACP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, RADIUS, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, VTP

Command Prompt

```

Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Reply from 10.0.0.2: bytes=32 time=1ms TTL=128
Reply from 10.0.0.2: bytes=32 time=0ms TTL=128
Reply from 10.0.0.2: bytes=32 time=0ms TTL=128
Reply from 10.0.0.2: bytes=32 time=0ms TTL=128

Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
PC>
  
```

3.Hub,Switch and PCs

Simulation Panel

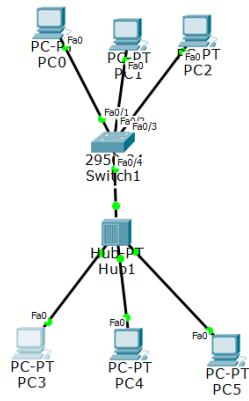
Vis.	Time(sec)	Last De	At Dev	Type	Info
	0.241	Switch0	PC5	STP	
	0.242	Hub0	PC0	STP	
	0.242	Hub0	PC1	STP	
	0.242	Hub0	PC2	STP	
	2.003	--	PC2	ICMP	

Reset Simulation ☒ Constant Delay Capturing...

Play Controls: Back Auto Capture / Play Capture / Forward

Event List Filters - Visible Events
 ACL Filter, ARP, BGP, CDP, DHCP, DHCPv6, DNS, DTP, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, LACP, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, RADIUS, RIP, RIPng, RTP, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, VTP

Edit Filters Show All/None



PC3

Physical Config Desktop Custom Interface

Command Prompt

```
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Reply from 10.0.0.2: bytes=32 time=0ms TTL=128
Reply from 10.0.0.2: bytes=32 time=2ms TTL=128
Reply from 10.0.0.2: bytes=32 time=0ms TTL=128
Reply from 10.0.0.2: bytes=32 time=1ms TTL=128

Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms

PC>
```