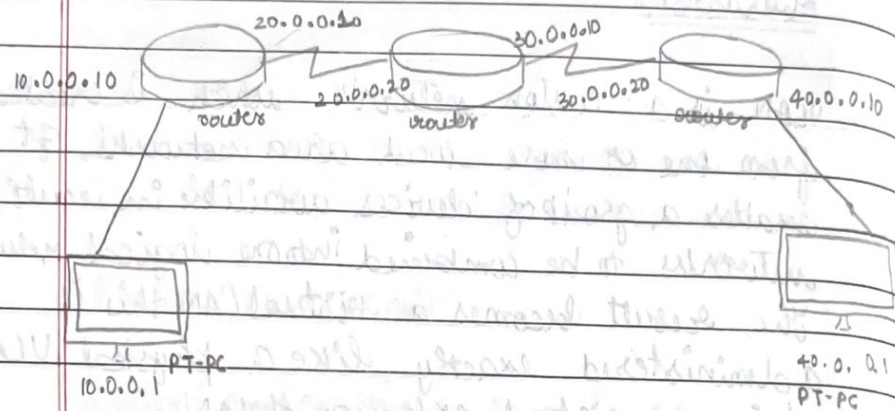


10-8-23

LIFE OF A PACKET

Aim : Demonstrate the time to live TTL

Topology:



Procedure:

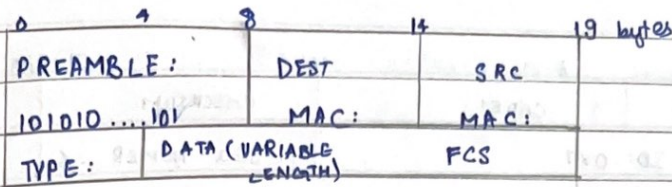
- Create a topology where there are 3 routers and two PT-PC's.
- Configure the devices
- In simulation mode, send a simple PDU from one PC to another.
- Use capture button to capture every transfer.
- Click on the PDU during every transfer to check the inbound and outbound PDU details. Observe that there is a difference of 1 in TTL when it crosses every router.

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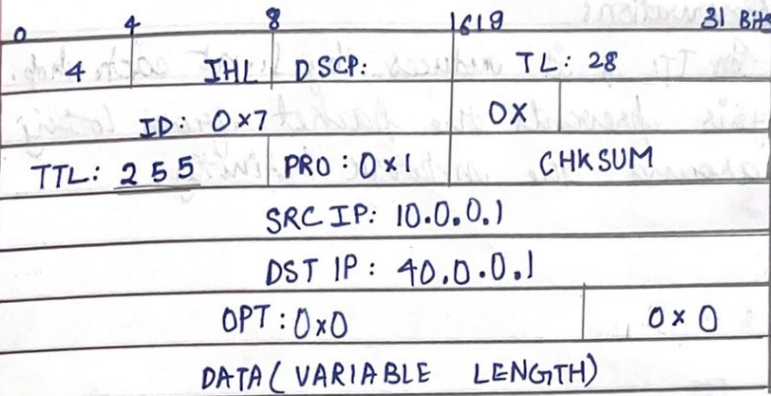
Bafna Gold

Date: Page:

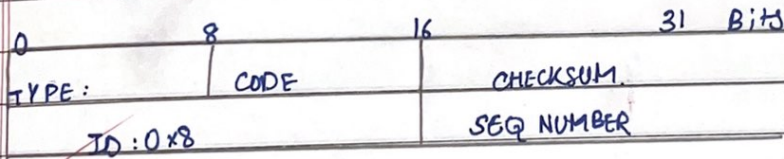
Ethernet II



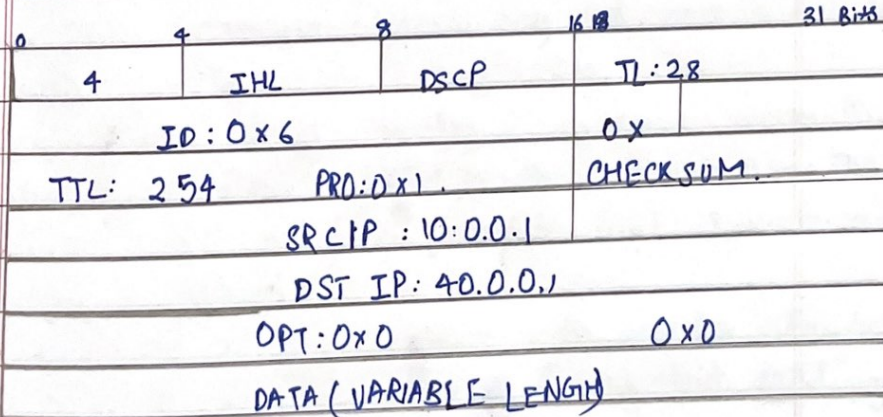
IP



ICMP

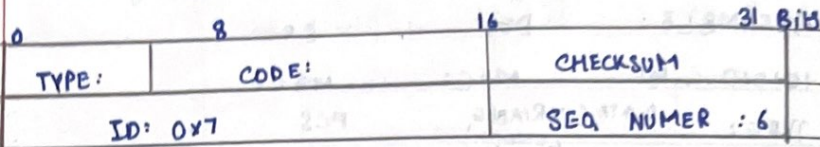


IP



10-8-23

ICMP

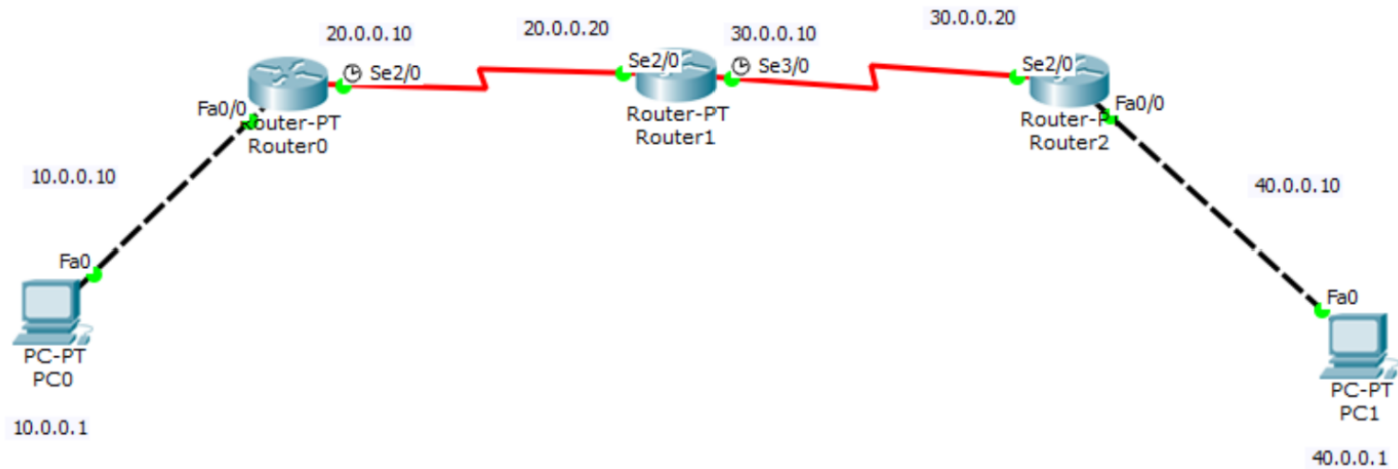


Observation:

In TTL, it reduces by 1 at each hop.
this prevents the packet from looping
around the network infinitely

10/10

17/8/23



PDU Formats

HDLC

0	8	16	32	32+x	48+x	56+x
FLG: 0111 1110	ADR: 0x8f	CONTROL: 0x0	DATA: (VARIABLE LENGTH)	FCS: 0x0	FLG: 0111 1110	

IP

0	4	8	16	19	31 Bits
4	IHL	DSCP: 0x0	TL: 28		
ID: 0x1			0x0	0x0	
TTL: 126		PRO: 0x1	CHKSUM		
SRC IP: 40.0.0.1					
DST IP: 10.0.0.1					
OPT: 0x0				0x0	
DATA (VARIABLE LENGTH)					

ICMP

0	8	16	31 Bits
TYPE: 0x0	CODE: 0x0	CHECKSUM	
ID: 0x3		SEQ NUMBER: 2	

PDU Formats

Ethernet II

0	4	8	14	19	Bytes
PREAMBLE: 101010...1011		DEST MAC: 0060.3E33.E1A4		SRC MAC: 0050.0FDC.B57A	
TYPE: 0x800		DATA (VARIABLE LENGTH)			FCS: 0x0

IP

0	4	8	16	19	31	Bits
4	IHL	DSCP: 0x0	TL: 28			
ID: 0x1			0x0	0x0		
TTL: 125		PRO: 0x1	CHKSUM			
SRC IP: 40.0.0.1						
DST IP: 10.0.0.1						
OPT: 0x0				0x0		
DATA (VARIABLE LENGTH)						

ICMP

0	8	16	31	Bits
TYPE: 0x0		CODE: 0x0	CHECKSUM	
ID: 0x3		SEQ NUMBER: 2		