

Program 7

Aim: Demonstrate the TTL/ Life of a Packet.

Topology , Procedure and Observation:

Exp-7.

Demonstrate TTL / Life of a packet.

TTL \rightarrow time to leave ,

Observation

Procedure:

- Send a simple PDU from PC1 to PC4.
- Auto capture the event list then observe the TTL of each router in PDU information.

Observation

When the packet passes Router 0

inbound PDU details:

TTL = 255ms

outbound PDU details:

TTL = 254ms

R1

inbound = 254ms

outbound = 253ms

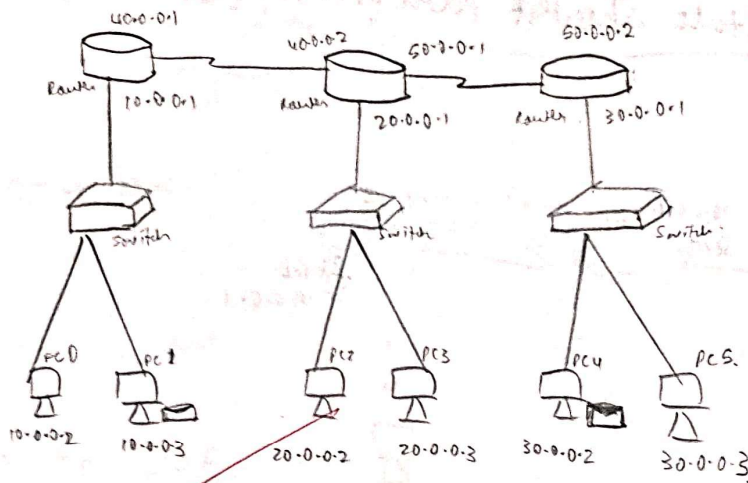
R2

inbound = 253ms

outbound = 252ms

Hence, we can observe TTL decreases as it passes through each of the router.

Topology



SAT
20th

Screen Shots:

PDU Information at Device: Router0

OSI Model Inbound PDU Details Outbound PDU Details

At Device: Router0
Source: PC0
Destination: PC3

In Layers

Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 10.0.0.2, Dest. IP: 20.0.0.3 ICMP Message Type: 8
Layer 2: Ethernet II Header 000A.41E3.E33A >> 0010.11A0.4697
Layer 1: Port FastEthernet0/0

Out Layers

Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 10.0.0.2, Dest. IP: 20.0.0.3 ICMP Message Type: 8
Layer 2: HDLC Frame HDLC
Layer 1: Port(s): Serial2/0

1. FastEthernet0/0 receives the frame.

Challenge Me << Previous Layer Next Layer >>

PDU Information at Device: Router0

OSI Model Inbound PDU Details Outbound PDU Details

PDU Formats

Ethernet II

0	4	8	14	19	Byt
PREAMBLE: 101010...1011		DEST MAC: 0010.11A0.4697		SRC MAC: 000A.41E3.E33A	
TYPE: 0x800		DATA (VARIABLE LENGTH)		FCS: 0x0	

IP

0	4	8	16	19	31	Bits
4		IHL	DSCP: 0x0		TL: 28	
ID: 0xa		0x0		0x0		
TTL: 255		PRO: 0x1		CHKSUM		
SRC IP: 10.0.0.2						
DST IP: 20.0.0.3						
OPT: 0x0				0x0		
DATA (VARIABLE LENGTH)						

ICMP

0	8	16	31	Bits
TYPE: 0x8		CODE: 0x0		CHKSUM

PDU Information at Device: Router0

OSI Model

Inbound PDU Details

Outbound PDU Details

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: 0xa			0x0	0x0	
TTL: 254		PRO: 0x1	CHKSUM		
SRC IP: 10.0.0.2					
DST IP: 20.0.0.3					
OPT: 0x0				0x0	
DATA (VARIABLE LENGTH)					

ICMP

0	8	16	31 Bits
TYPE: 0x8		CODE: 0x0	CHECKSUM
ID: 0x5		SEQ NUMBER: 10	