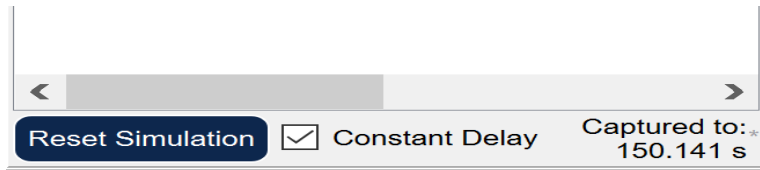


By :Mennat Allah Kamal Kamel

Lab:9.3.4

Part1: IPv6 Neighbor Discovery Local Network



PDU Information at Device: PCA2

OSI Model Inbound PDU Details Outbound PDU Details

PDU Formats

EthernetII																Bytes																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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```
C:\>ping -n 1 2001:db8:acad:1::b

Pinging 2001:db8:acad:1::b with 32 bytes of data:

Reply from 2001:DB8:ACAD:1::B: bytes=32 time=8ms TTL=128

Ping statistics for 2001:DB8:ACAD:1::B:
    Packets: Sent = 1, Received = 1, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 8ms, Maximum = 8ms, Average = 8ms
```

OSI

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CA1 and

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Completion:

Next

PDU Information at Device: RTA

OSI Model Inbound PDU Details

At Device: RTA
Source: PCA1
Destination: FF02::1:FF00:B

In Layers

Layer7
Layer6
Layer5
Layer4

Layer 3: IPv6 Header Src. IP:
2001:DB8:ACAD:1::A, Dest. IP:
FF02::1:FF00:B ICMPv6 Neighbor
Message Type: 135

Layer 2: Ethernet II Header
0001.427E.E8ED >> 3333.FF00.000B

Layer 1: Port GigabitEthernet0/0/0

Out Layers

Layer7
Layer6
Layer5
Layer4

Layer3

Layer2

Layer1

1. The packet is coming from an outside network. The device looks up its NAT table for necessary translations.
2. The destination IP address is a broadcast or multicast address. The device dispatches the packet to the upper layer.
3. The packet is an ICMP packet. The ICMP process processes it.
4. The packet is an NDP packet. The device processes the packet.
5. The ND packet is a Neighbor Solicitation.
6. The Neighbor Solicitation's target IPv6 address does not match the receiving port's IPv6 address.
7. The NDP process drops the packet.

Challenge Me

<< Previous Layer

Next Layer >>

```
RTA>show ipv6 neighbors
RTA>en
RTA#show ipv6 neighbors
RTA#show ipv6 neighbors
IPv6 Address
2001:DB8:ACAD:1::B
RTA#
```

Age	Link-layer	Addr	State	Interface
2	0040.0BD2.243E	REACH	Gig0/0/0	

Part2:

1:

Cisco Packet Tracer

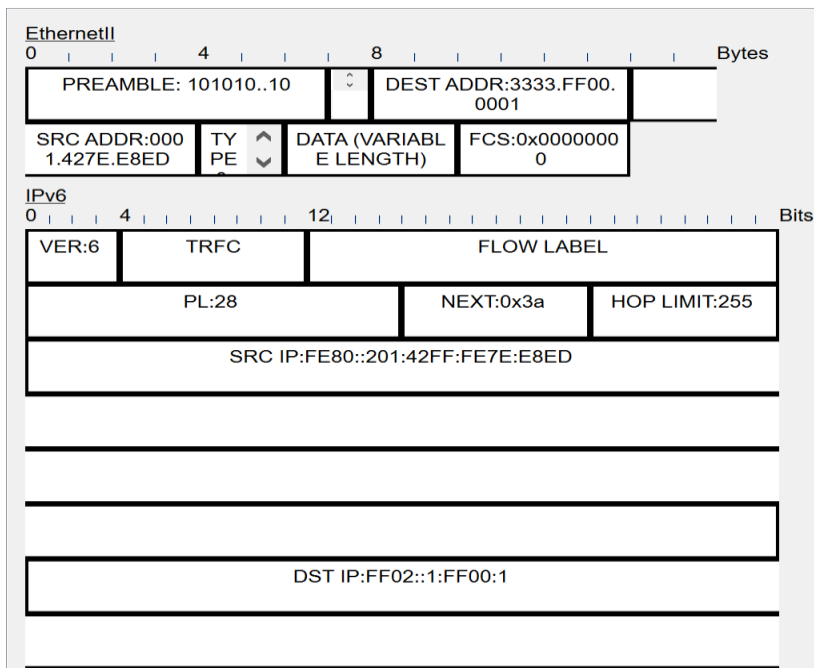
IPv4 **IPv6** Misc

<input type="checkbox"/> DHCPv6	<input type="checkbox"/> EIGRPv6	<input type="checkbox"/> HSRP
<input checked="" type="checkbox"/> ICMPv6	<input checked="" type="checkbox"/> NDP	<input type="checkbox"/> OSPF
<input type="checkbox"/> RIPng		

PDU Information at Device: RTA

OSI Model **Inbound PDU Details** Outbound PDU Details

PDU Formats



```
C:\>ping n 1 2001:db8:acad:2::a -
Invalid Command.

C:\>ping -n 1 2001:db8:acad:2::a

Pinging 2001:db8:acad:2::a with 32 bytes of data:

Reply from 2001:DB8:ACAD:2::A: bytes=32 time=24ms TTL=127

Ping statistics for 2001:DB8:ACAD:2::A:
    Packets: Sent = 1, Received = 1, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 24ms, Maximum = 24ms, Average = 24ms
```

PDU Information at Device: RTA

OSI Model Inbound PDU Details Outbound PDU Details

PDU Formats

EthernetII

0	4	8	Bytes
PREAMBLE: 101010..10	DEST ADDR:3333.FF00.0001		
SRC ADDR:0001.961D.6301	TY PE	DATA (VARIABLE LENGTH)	FCS:0x00000000

IPv6

0	4	12	Bits
VER:6	TRFC	FLOW LABEL	
PL:28	NEXT:0x3a	HOP LIMIT:255	
SRC IP:FE80::1			
DST IP:FF02::1:FF00:1			

Step2:

```

RTA#clear ipv6 ?
dhcp          Clear IPv6 DHCP information
nat           Clear NAT-PT
neighbors     Clear IPv6 ND Entry Cache
ospf          OSPF clear commands
route         Clear IPv6 route table entries
RTA#clear ipv6 ne
RTA#clear ipv6 neighbors
RTA#show ipv6 neighbors
IPv6 Address          Age Link-layer Addr State Interface
2001:DB8:ACAD:1::A    2 0001.427E.E8ED REACH Gig0/0/0
2001:DB8:ACAD:2::A    2 0060.2F68.9E91 REACH Gig0/0/1
FE80::201:42FF:FE7E:E8ED 2 0001.427E.E8ED REACH Gig0/0/0
FE80::260:2FFF:FE68:9E91 2 0060.2F68.9E91 REACH Gig0/0/1
RTA#

```

Copy

Paste

Top