**Calculation of IPV6 Link Local Address from Physical Address**

PC0 Physical Address - 00E0.B0FF:FEEA.2BAE

00000000 (MSB)

00000010 🡪 02

02E0.B0FF:FEEA.2BAE

FE80::02E0.B0FF:FEEA.2BAE 🡪 IPV6 Link Local Address

**Pinging PC0 from PC1 using PC0’s IPV6 Link Local Address**

PC1> ping FE80::02E0.B0FF:FEEA.2BAE

**Router Configuration**

Router> enable

Router# config t

Router(config)# hostname R1

R1(config)# interface g0/0

R1(config-if)#ipv6 address FE80::1 link-local

R1(config-if)#no shutdown

R1(config-if)# exit

R1(config)# interface g0/1

R1(config-if)#ipv6 address FE80::1 link-local

R1(config-if)#no shutdown

R1(config-if)# exit

R1#copy run start

R1#config t

R1(config)#int g0/0

R1(config-if)#ipv6 address 2001:DB8:a:a::1/64

R1(config-if)#exit

R1(config)#int g0/1

R1(config-if)#ipv6 address 2001:db8:a:b::1/64

R1(config-if)#exit

R1(config)#exit

R1#copy run start

R1(config)#ipv6 unicast-routing

Now ping PC2 from PC1. One network PC to another network PC.

C:\>ping 2001:DB8:A:B:201:64FF:FE62:15A6

Pinging 2001:DB8:A:B:201:64FF:FE62:15A6 with 32 bytes of data:

Reply from 2001:DB8:A:B:201:64FF:FE62:15A6: bytes=32 time<1ms TTL=127

Reply from 2001:DB8:A:B:201:64FF:FE62:15A6: bytes=32 time<1ms TTL=127

Reply from 2001:DB8:A:B:201:64FF:FE62:15A6: bytes=32 time<1ms TTL=127

Reply from 2001:DB8:A:B:201:64FF:FE62:15A6: bytes=32 time<1ms TTL=127

Ping statistics for 2001:DB8:A:B:201:64FF:FE62:15A6:

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

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0ms