

H.323 VideoConference Calls Routed Between Separate Networks

Developed by David A. Nichols, the Northeast Texas Network Consortium (NETnet)

Synopsis:

When connecting separate networks, it is possible to Network Address Translate (NAT) IP Addresses to pass H.323 videoconference calls while still providing security for each network. This approach will work whether the IP Addresses utilized are Public or Private IP Addresses.

This methodology is based on a Cisco 2600XM router equipped with 128MB of memory and running IOS version 12.3(14)T6.

The requirement is to pass videoconferencing between the separate networks while providing the routing integrity of each network and preventing unintended routing services through each other's network.

In our network, we are utilizing private IP Addresses on the subnet hosting our videoconference bridges. The end-points have public IP Addresses on a network controlled by a different company. The end-points are connected to a VLAN that only serves videoconferencing traffic.

If you choose to connect the networks using FastEthernet ports to serve each network, the interfaces can be set up in the following manner. For this example, 192.168.1.21 is assigned to videoconference bridge 1 and 192.168.1.22 is videoconference bridge 2. Additionally, 207.242.93.27 and 207.242.93.54 are assigned to videoconference end-points.

```
Router (config)# interface FastEthernet 0/0
Router (config-if)# ip address 192.168.1.1 255.255.255.xxx
Router (config-if)# ip nat inside
Router (config-if)# ip virtual-reassembly
Router (config-if)# speed 100
Router (config-if)# duplex full
Router (config-if)# no cdp enable
```

```
Router (config-if)# interface FastEthernet 1/0
Router (config-if)# ip address 207.242.93.24 255.255.255.xxx
Router (config-if)# no ip redirects
Router (config-if)# no ip unreachable
Router (config-if)# no ip proxy-arp
Router (config-if)# ip nat outside
Router (config-if)# ip virtual-reassembly
Router (config-if)# speed 100
Router (config-if)# duplex full
Router (config-if)# no cdp enable
```

```
Router (config)# ip route 0.0.0.0 0.0.0.0 192.168.1.1
Router (config)# ip route 207.242.93.27 255.255.255.255 192.168.1.21
Router (config)# ip route 207.242.93.54 255.255.255.255 192.168.1.22
```

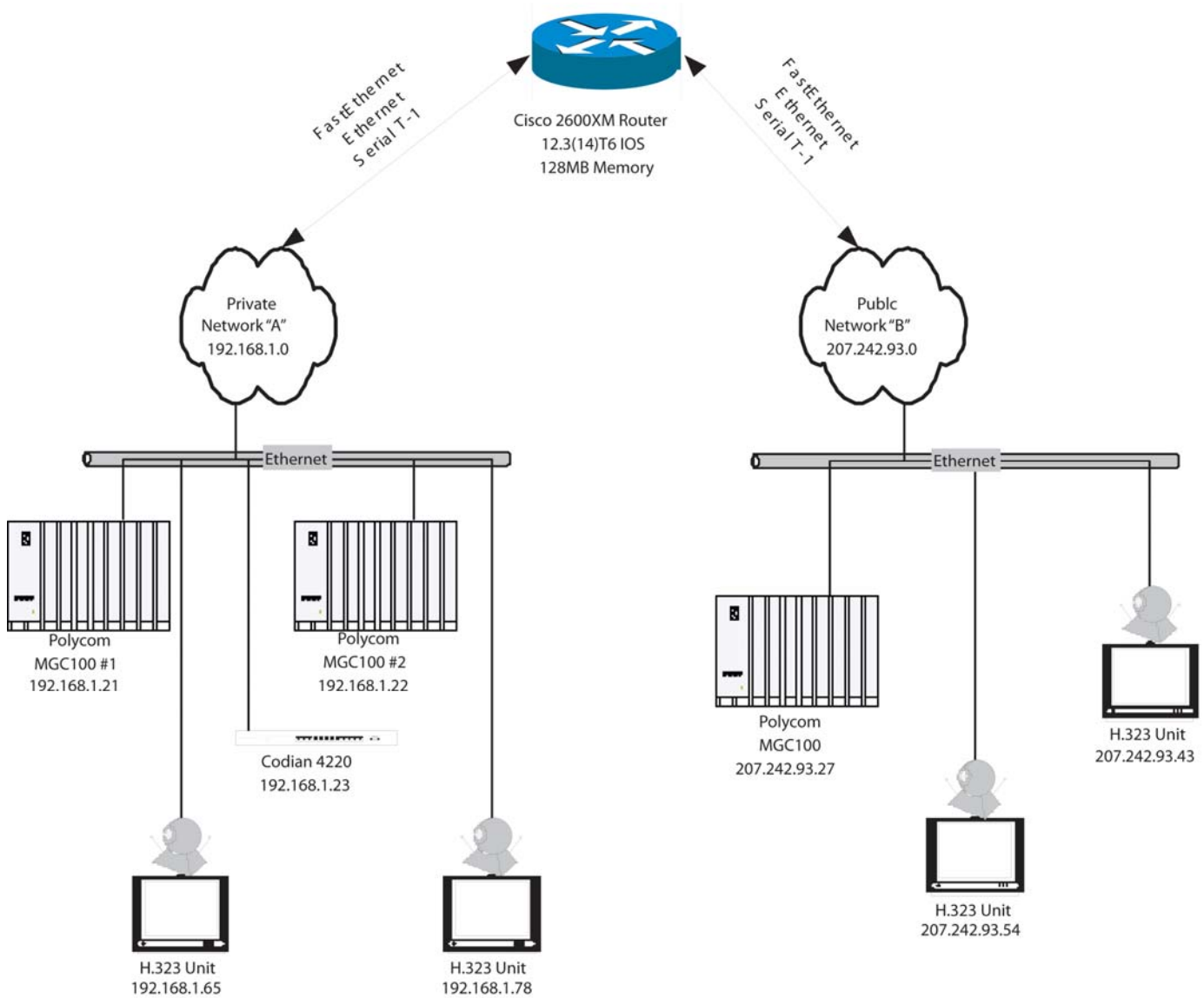
```
Router (config)# ip nat service allow-h323-keepalive
Router (config)# ip nat inside source static 192.168.1.21 207.242.93.27 extendable
Router (config)# ip nat inside source static 192.168.1.22 207.242.93.54 extendable
```

This scheme is currently serving two (2) Polycom MGC100 VideoConference bridges and one (1) Codian 4220 VideoConference bridge. The remote network can route these videoconference calls either directly to an end-point or to their Polycom MGC100 bridge.

A similar router could be configured to serve one network across a serial T-1 circuit. That configuration would support three (3) simultaneous 384KB videoconference calls.

H.323 VideoConferences between Separate Networks utilizing Network Address Translation (NAT)

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```

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Router (config-if)# duplex full
Router (config-if)# no cdp enable

Router (config-if)# interface FastEthernet 1/0
Router (config-if)# ip address 207.242.93.24 255.255.255.xxx
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Router (config-if)# ip virtual-reassembly
Router (config-if)# speed 100
Router (config-if)# duplex full
Router (config-if)# no cdp enable

Router (config)# ip route 0.0.0.0 0.0.0.0 192.168.1.1
Router (config)# ip route 207.242.93.27 255.255.255.255 192.168.1.21
Router (config)# ip route 207.242.93.54 255.255.255.255 192.168.1.22
    
```

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Router (config)# ip nat service allow-h323-keepalive
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