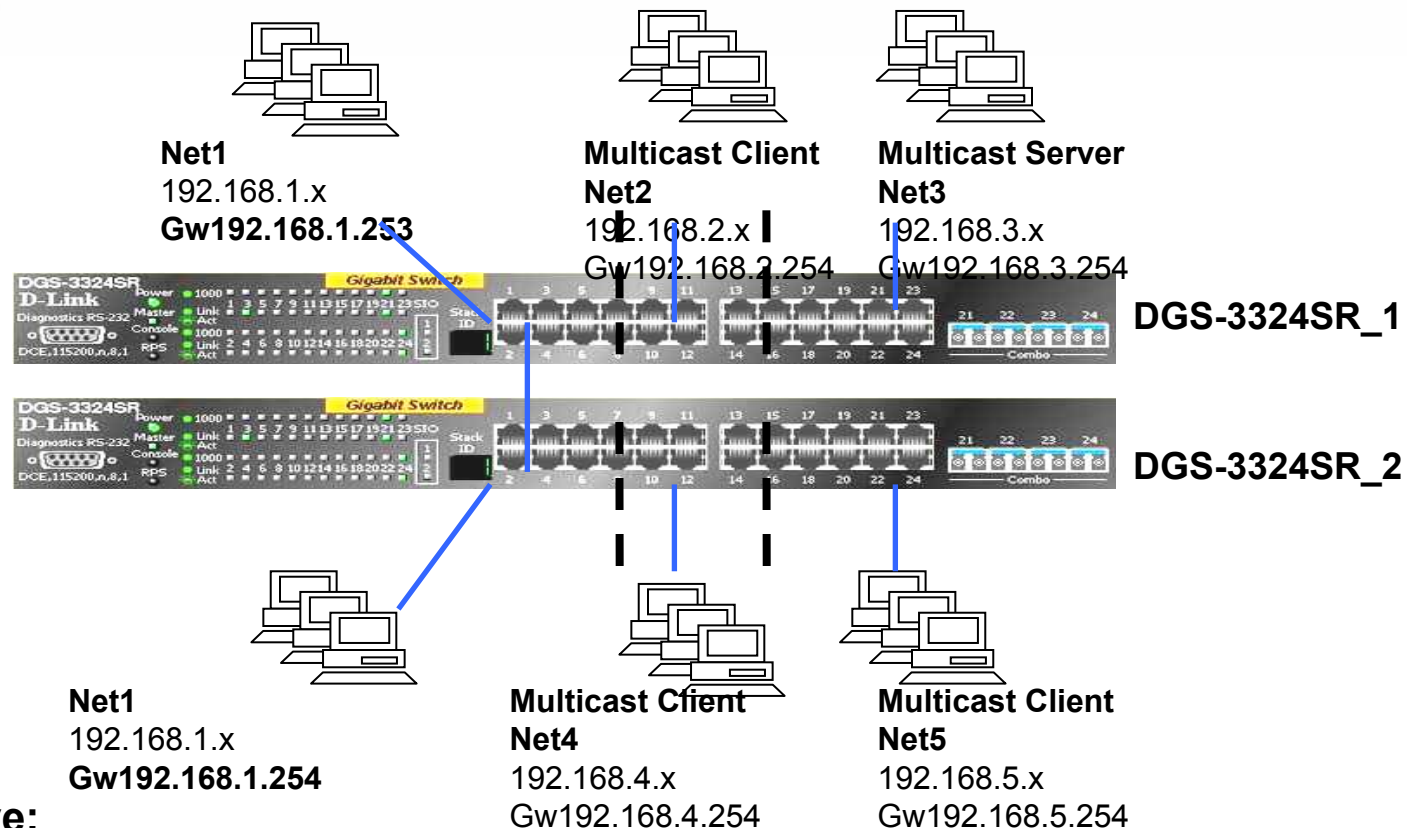


Dynamic Routing + multicast Routing 1/6



- ❑ **Objective:**
 1. Multicast Client can view the program at multicast Server at “remote” networks.
 2. Unicast protocol= RIP
 3. Multicast Routing Protocol = PIM-DM
- ❑ **Scenario:**

Two layer 3 device would like to share the Multicast data by using IP/TV or Media Server for various subnet clients. Two layer 3 switches need to exchange the routing table by using RIP.

Dynamic Routing + multicast Routing 2/6

AT DGS-3324SR_ 1(top)

1. Configure VLAN and IP interfaces.

```
config vlan default delete 1:1-1:24
create vlan v101 tag 101
config vlan v101 add untagged 1:1-1:8
create ipif net1 192.168.1.253/24 v101 state enabled
```

```
create vlan v102 tag 102
config vlan v102 add untagged 1:9-1:16
create ipif net2 192.168.2.254/24 v102 state enabled
```

```
create vlan v103 tag 103
config vlan v103 add untagged 1:17-1:24
create ipif net3 192.168.3.254/24 v103 state enabled
```

2. Unicast Routing: Enable RIP, and enable the associated Interfaces, with “all” for all interfaces. Also could use OSPF or Static Route.

enable rip

```
config rip all tx_mode v2_only rx_mode v2_only state enabled
```

Dynamic Routing + multicast Routing 3/6

AT DGS-3324SR_ 1(top)

3. Multicast Routing: Enable PIM-DM for multicast routing protocol, and enable the Interfaces where multicast Server and Client located, with “all” for all interfaces. Also Could use DVMRP as the Multicast routing protocol.

enable pim

config pim all state enable

4. Enable IGMP for those interfaces where Multicast Client are located, with “all” for all interfaces.

config igmp all state enable

5. Enable the global IGMP snooping, and enable the IGMP Snooping on those VLANs where Multicast client located, with “all” for all VLANs.

enable igmp_snooping

config igmp_snooping all state enable

PROCEDURE: Dynamic Routing + multicast Routing 4/6

AT DGS-3324SR_2 (Bottom)

1. Configure VLAN and IP interfaces.

```
config vlan default delete 1:1-1:24
create vlan v101 tag 101
config vlan v101 add untagged 1:1-1:8
create ipif net1 192.168.1.254/24 v101 state enabled
```

```
create vlan v104 tag 104
config vlan v104 add untagged 1:9-1:16
create ipif net4 192.168.4.254/24 v104 state enabled
```

```
create vlan v105 tag 105
config vlan v105 add untagged 1:17-1:24
create ipif net5 192.168.5.254/24 v105 state enabled
```

2. Unicast Routing: Enable RIP, and enable the associated Interfaces, with “all” for all interfaces. Also could use OSPF or Static Route.

```
enable rip
config rip all tx_mode v2_only rx_mode v2_only state enabled
```

Dynamic Routing + multicast Routing 5/6

AT DGS-3324SR_2(Bottom)

3. Enable PIM-DM for multicast routing protocol, and enable the Interfaces where multicast Server and Client located, with “all” for all interfaces. Or enable the DVMRP, if other connected L3 device runs DVMRP protocol.

```
enable pim  
config pim all state enable
```

4. Enable IGMP for those interfaces where Multicast Client are located, with “all” for all interfaces.

```
config igmp all state enable
```

5. Enable the global IGMP snooping, and enable the IGMP Snooping on those VLANs where Multicast client located, with “all” for all VLANs.

```
enable igmp_snooping  
config igmp_snooping all state enable
```

Dynamic Routing + multicast Routing 6/6

TEST:

1. **Multicast Clients Net1, net2, net4, and Net5 can join the programs played at multicast Server at Net3, and view the video.**
2. **Because of IGMP snooping enabled, other un-joined clients will not received the multicast packets.**