



SNEAK PEEK

Cisco Support Community Expert Series Webcast

Troubleshooting with NX-OS

November 28th, 2017

with Luis Espejel and David Ramirez

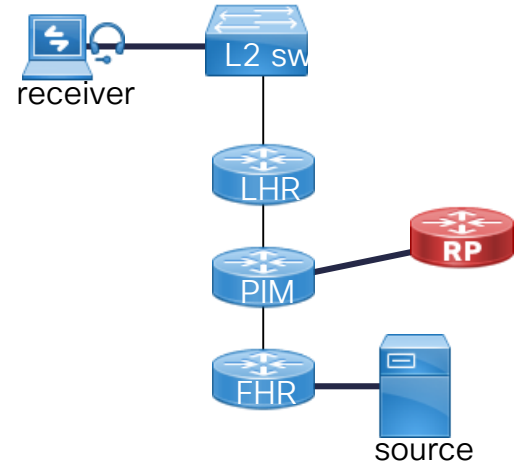
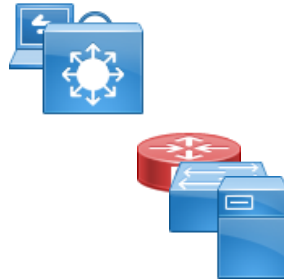


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Agenda

- Introduction
- Multicast basics
- Auto RP, BSR (RP distribution methods)
- Possible threats and security measures
- Demonstration

Multicast – Basic Functioning



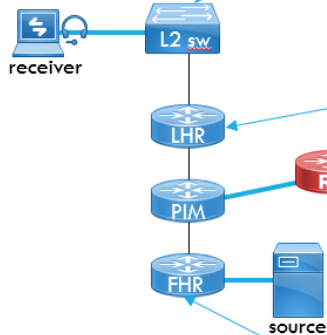
Multicast - Basic Functioning

```
IGMPSN: Received IGMPv2 Report for group 239.1.2.3 received on Vlan 10, port Et0/0
IGMPSN: group: Received IGMPv2 report for group 239.1.2.3 from Client 10.2.3.1 received on Vlan 10, port Et0/0
IGMPSN: Add v2 group 239.1.2.3 member port Et0/0, on Vlan 10
IGMPSN: group: Added port Et0/0 to group 239.1.2.3
IGMPSN: group: Forwarding 239.1.2.3 report to router ports
```

```
*Nov 18 23:04:03.850: MRT(0): Create (*,239.1.2.3), RPF (unknown, 0.0.0.0, 0/0)
*Nov 18 23:04:03.850: MRT(0): WAVL Insert interface: Vlan10 in (*,239.1.2.3) Successful
*Nov 18 23:04:03.850: MRT(0): set min mtu for (0.0.0.0, 239.1.2.3) 0->1500
*Nov 18 23:04:03.850: MRT(0): Set the C-flag for (*, 239.1.2.3)
*Nov 18 23:04:03.850: MRT(0): Add Vlan10/239.1.2.3 to the olist of (*, 239.1.2.3), Forward state -
MAC not built
*Nov 18 23:04:03.850: MRT(0): Update Vlan10/239.1.2.3 in the olist of (*, 239.1.2.3), Forward
state - MAC not built
*Nov 18 23:04:03.850: PIM(0): Building Triggered (*,G) Join / (S,G,RP-bit) Prune message for
239.1.2.3
```

```
RP#
PIM(0): Received v2 Join/Prune on Ethernet0/2 from 10.4.7.4, to us
PIM(0): Join-list: (*, 239.1.2.3), RPT-bit set, WC-bit set, S-bit set
PIM(0): Check RP 10.0.0.4 into the (*, 239.1.2.3) entry
PIM(0): Adding register decap tunnel (Tunnell) as accepting interface of (*, 239.1.2.3).
PIM(0): Add Ethernet0/2/10.4.7.4 to (*, 239.1.2.3), Forward state, by PIM *G Join
PIM(0): Prune-list: (10.5.6.6/32, 239.1.2.3) RPT-bit set
```

```
FHR#
PIM(0): Adding register encap tunnel (Tunnel0) as forwarding interface of (10.5.6.6,
239.1.2.3).
PIM(0): Received v2 Join/Prune on Ethernet0/1 from 10.4.5.4, to us
PIM(0): Join-list: (10.5.6.6/32, 239.1.2.3), S-bit set
PIM(0): Add Ethernet0/1/10.4.5.4 to (10.5.6.6, 239.1.2.3), Forward state, by PIM SG Join
PIM(0): Building Periodic (*,G) Join / (S,G,RP-bit) Prune message for 239.1.2.3
```



Multicast – PIM Neighbor Control

```
ip pim multicast-routing

ip access-list 1 permit 10.0.0.2
ip access-list 1 deny any

interface ethernet0/0
  ip address 10.0.0.1 255.255.255.0
  ip pim sparse-mode
  ip pim neighbor-filter 1
```

```
ip pim multicast-routing

ip access-list 1 permit 10.0.0.1
ip access-list 1 deny any

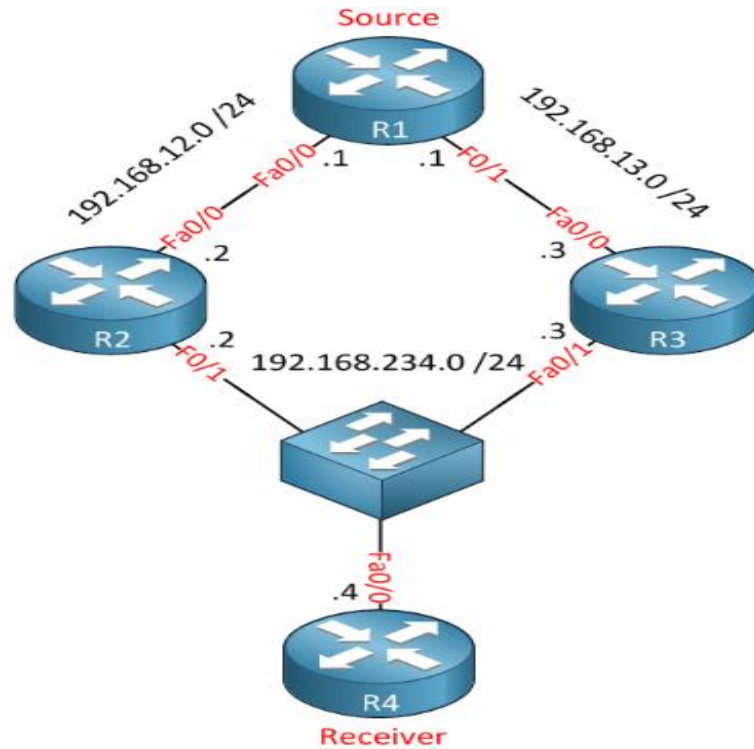
interface ethernet0/0
  ip address 10.0.0.2 255.255.255.0
  ip pim sparse-mode
  ip pim neighbor-filter 1
```



MSDP Control:

```
ip msdp peer 10.0.0.1
ip msdp password peer 10.0.0.2 $secret
```

PIM Assert



IGP Tunning

- The OSPF Link-State Advertisement (LSA) Throttling feature provides a dynamic mechanism to slow down link-state advertisement (LSA) updates in OSPF during times of network instability. It also allows faster Open Shortest Path First (OSPF) convergence by providing LSA rate limiting in milliseconds.
- The SPF and LSA throttle timers should be tuned to these recommended settings.

spf-start	10 ms
msecspf-hold	100 to 500 ms
msecspf-max-wait	5 seconds
lsa-start	10 ms
mseclsa-hold	100 to 500 ms
mseclsa-max-wait	5 seconds
lsa arrival	80 ms (less than lsa-hold of 100 ms)

Check out some additional information on IP Multicast and other Routing Protocols on the Cisco Support Community or Cisco.com

How to configure IP Multicast Routing

<https://supportforums.cisco.com/t5/network-infrastructure-documents/how-to-configure-ip-multicast-routing/ta-p/3133143>

IP multicast issues

<https://supportforums.cisco.com/t5/network-infrastructure-documents/ip-multicast-issues/ta-p/3114301>

If you are not yet a registered user on the community, [Click here](#) to register and become an active participant on the community.



Hope you enjoyed this little peek into the webcast.
Remember it was just a peek. November 28th, you get a chance to see the whole thing.



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At the webcast you will be able to learn so much more and get a chance to submit questions for the expert to answer during the broadcast.
We'll see you there!