

Multicast VLAN Registration (MVR) on a Catalyst 3750 Sample Configuration

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Introduction

In multicast VLAN networks, subscribers to a multicast group can exist in more than one VLAN. If the VLAN boundary restrictions in a network consist of Layer 2 switches, it might be necessary to replicate the multicast stream to the same group in different subnets, even if they are on the same physical network. Multicast VLAN Registration (MVR) routes packets received in a multicast source VLAN to one or more receive VLANs. Clients are in the receive VLANs and the multicast server is in the source VLAN. Multicast routing has to be disabled when MVR is enabled. Refer to the configuration guide at Understanding Multicast VLAN Registration for more information on MVR.

This document provides a simple topology: a stack of Catalyst 3750 Switches with multicast source/receivers connected to it, a working configuration, and output of commands to verify whether the MVR works or not when a stream is sending.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on output from the Catalyst 3750 Switch.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Related Products

This configuration can also be used with these switch types:

- Catalyst 3550, 2940, 2950, 2970, 3500/2900XL Series Switches

Catalyst 3750, 35XX, 29XX Switches support MVR since code version 12.1(11)AX. For Catalyst 3500/2900 XL Switches, the minimum Cisco IOS® Software Release required is 12.0(5)WC(1).

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

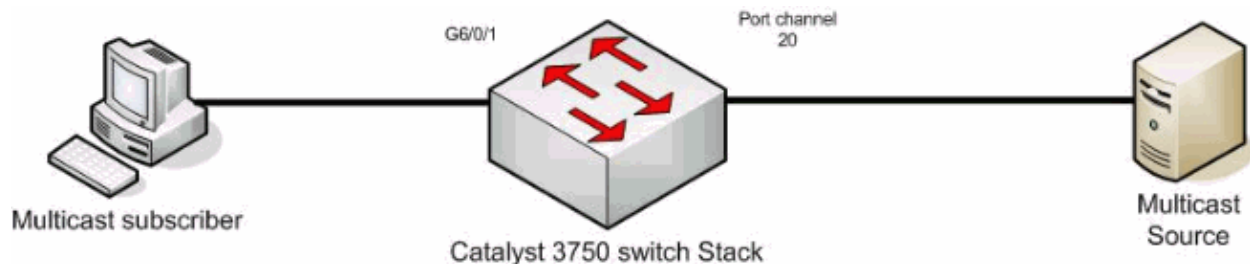
Configure

In this section, you are presented with the information to configure the features described in this document.

Note: Use the Command Lookup Tool (registered customers only) to obtain more information on the commands used in this section.

Network Diagram

This document uses this network setup:



Configuration

You must complete these steps in order to configure MVR:

1. Issue this command in order to disable multicast routing globally on the switch or switch stack:

```
switch(config)#no ip multicast-routing distributed
```

2. Issue this command in order to enable MVR globally:

```
mixed(config)#mvr
```

3. Issue this command in order to specify the multicast group where the stream is sending:

```
mixed(config)#mvr group 239.9.0.1
```

4. Issue this command in order to specify the VLAN where the source is located:

```
mixed(config)#mvr vlan 1200
```

5. Although multicast routing is disabled, you need to issue these commands in order to enable the peripheral interface manager (PIM) on the routed interface.

This is to maintain multicast group status so that the general query can be sent.

Note: WARNING messages are received from Cisco IOS after PIM is enabled.

```
mixed(config)#int vlan 1200
```

```
mixed(config-if)#ip pim dense-mode
```

```
WARNING: "ip multicast-routing distributed" is not configured,
```

```
IP Multicast packets will not be forwarded.
WARNING: "ip multicast-routing distributed" is not configured,
IP Multicast packets will be fast-switched.
mixed(config-if)#int vlan 1100
mixed(config-if)#ip pim dense-mode
WARNING: "ip multicast-routing distributed" is not configured,
IP Multicast packets will not be forwarded.
WARNING: "ip multicast-routing distributed" is not configured,
IP Multicast packets will be fast-switched.
```

6. Issue these commands:

```
mixed(config-if)#int port-channel 20
mixed(config-if)#mvr type source
```

The **mvr type source** command should specify on the interface where the multicast stream comes from.

7. Issue these commands:

```
mixed(config-if)#int g6/0/1
mixed(config-if)#mvr type receiver
```

The **mvr type receiver** command should specify on the other interface where the subscribers are attached.

3750 Switch
<pre>maui-soho-01#show running-config Building configuration... ! mvr vlan 1200 mvr mvr group 239.9.0.1 ! ! vlan 1,1100,1200 ! interface Port-channel20 switchport trunk encapsulation isl switchport mode trunk mvr type source</pre>

```
!  
interface GigabitEthernet6/0/1  
    switchport access vlan 1100  
    mvr type receiver  
    spanning-tree portfast  
!  
interface GigabitEthernet7/0/49  
    switchport trunk encapsulation isl  
    switchport mode trunk  
    channel-group 20 mode active  
!  
interface GigabitEthernet7/0/50  
    switchport trunk encapsulation isl  
    switchport mode trunk  
    channel-group 20 mode active  
!  
interface Vlan1100  
    ip address 116.100.1.1 255.255.0.0  
    ip pim sparse-dense-mode  
!  
interface Vlan1200  
    ip address 115.200.1.1 255.255.0.0  
    ip pim sparse-dense-mode  
!  
ation interface Gi7/0/2  
!  
end
```

Verify

Use this section to confirm that your configuration works properly.

The Output Interpreter Tool (registered customers only) (OIT) supports certain **show** commands. Use the OIT to view an analysis of **show** command output.

Issue the **show mvr** command in order to display the MVR status and values for the switch.

```
mixed#show mvr
```

```
MVR Running: TRUE

MVR multicast VLAN: 1200

MVR Max Multicast Groups: 256

MVR Current multicast groups: 1

MVR Global query response time: 5 (tenths of sec)

MVR Mode: compatible
```

Issue the **show mvr interface** command in order to verify the flow of the multicast stream.

```
mixed#show mvr interfaces

Port      Type      Status      Immediate Leave
-----
Gi6/0/1   RECEIVER  ACTIVE/UP   DISABLED
Po21      SOURCE    ACTIVE/UP   DISABLED
```

Issue the **show mvr member** command in order to find out who subscribes to the multicast group.

```
mixed#show mvr member

MVR Group IP      Status      Members
-----
239.009.000.001  ACTIVE      Gi6/0/1(d), Po20(s)
```

Related Information

- [Configuring IGMP Snooping and MVR on Catalyst 3750 Switches](#)
- [LAN Product Support Pages](#)
- [LAN Switching Support Page](#)
- [Technical Support & Documentation – Cisco Systems](#)

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