Nexus 7000 Series Switch RSPAN Configuration Example

Contents

Introduction

This document describes how to configure a remote switched port analyzer (RSPAN) session on a Nexus 7000 Series Switch that monitors the traffic between Ethernet ports on two different Nexus 7000 Series Switches.

Prerequisites

Requirements

Ensure that you meet these requirements before you attempt this configuration:

- Have basic knowledge of configuration on Nexus 7000 Series Switches
- Have basic knowledge of remote switched port analyzer (RSPAN)

Components Used

The information in this document is based on Nexus 7000 Series NX-OS devices.

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.

Conventions

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

Background Information

You can use switched port analyzer (SPAN) in order to analyze network traffic that passes through ports or VLANs of the switch, which send a copy of the traffic to a destination port where the network analyzer connects to the switch.

In order to extend SPAN, RSPAN enables remote monitoring of multiple switches across your network. The Nexus 7000 Series Switch is limited in what it can do with RSPAN. An RSPAN VLAN cannot be used as a SPAN destination. Therefore, the Nexus 7000 switch can only use RSPAN as a transit VLAN or a source VLAN and pull data from the RSPAN VLAN. You cannot place anything into the RSPAN VLAN from the Nexus 7000 switch.

Configure

This configuration example uses source ports on two different Nexus 7000 series switches and a destination port on one Nexus 7000 switch where the network analyzer has connected. Separate Ethernet 1/1 links are set up between the two devices: one link as a span destination and the other link as access to the RSPAN VLAN.

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:

This example uses the ports listed in this table:

Device	Source Port	Destination Port
Nexus 1	Ethernet 2/15 and 2/16	Ethernet 1/1
Nexus 2	Ethernet 1/1, 2/26 to 2/28	Ethernet 2/37 to 2/40

From the Nexus 1 switch, the SPAN traffic from the source is carried to the destination port and copied onto the RSPAN VLAN. The traffic is then forwarded over the link to the Nexus 2 switch on the Ethernet 1/1 interface. Next, RSPAN VLAN traffic is sent to the destination port where the device, such as a SwitchProbe device or other Remote Monitoring (RMON) probe or security device, can receive and analyze the packets.

Configurations

This document uses these configurations:

- Nexus 1
- Nexus 2

Nexus 1

```
Nexus1#configure terminal

!--- Configure the interface VLAN 15 as RSPAN VLAN.
Nexus1(config)#vlan 15
Nexus1(config-vlan)#remote-span
Nexus1(config-vlan)#exit



!--- Configure the switchport interface as a SPAN
destination. Nexus1(config)#interface ethernet 1/1
Nexus1(config-if)#switchport monitor
Nexus1(config-if)#no shutdown
Nexus1(config-if)#exit



!--- Configure the SPAN session. Nexus1(config)#monitor
session 1

!---Configure the source port. Nexus1(config-
monitor)#source interface ethernet 2/15-16

!--- Configure the destination port. Nexus1(config-
monitor)#destination interface ethernet 1/1

!--- Enable the SPAN session (by default the session is
in shutdown state). Nexus1(config-monitor)#no shut
Nexus1(config-monitor)#exit
```

Nexus 2

```
Nexus2#configure terminal

!--- Configuration of interface VLAN 15 as RSPAN VLAN.
Nexus2(config)#vlan 15
Nexus2(config-vlan)#remote-span
Nexus2(config-vlan)#exit

!--- Configure the switchport interface to access in
RSPAN VLAN. Nexus2(config)#interface ethernet 1/1
Nexus2(config-if)#switchport mode access
Nexus2(config-if)#switchport access vlan 15
Nexus2(config-if)#no shutdown
Nexus2(config-if)#exit



!--- Configure the switchport interfaces as a SPAN
destination. Nexus2(config)#interface ethernet 2/37-40
Nexus2(config-if)#switchport monitor
Nexus2(config-if)#exit



!--- Configure the SPAN session. Nexus2(config)#monitor
session 1

!--- Configure the source port. Nexus2(config-
monitor)#source interface ethernet 2/26-28
Nexus2(config-monitor)#source vlan 15

!--- Configure the destination port. Nexus2(config-
monitor)#destination interface ethernet 2/37-40
```

```
!--- Enable the SPAN session (by default the session is
in shutdown state). Nexus2(config-monitor)#no shut
Nexus2(config-monitor)#exit
```

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.

Here are some of the SPAN and RSPAN verification commands:

Nexus 1:

- Use the **show monitor** command in order to display the status of the RSPAN sessions.
  ```
  Nexus1# show monitor
  Session State         Reason                 Description
  ------- -----------   ---------------------  --------------------------------
  1       up            The session is up
  ```
- Use the **show monitor session [*session session_number*]** command in order to display the ERSPAN session configuration.
  ```
  Nexus1# show monitor session 1
     session 1
  ---------------
  type             : local
  state            : up
  source intf      :
      rx           : Eth1/15       Eth1/16
      tx           : Eth1/15       Eth1/16
      both         : Eth1/15       Eth1/16
  source VLANs     :
      rx           :
      tx           :
      both         :
  filter VLANs     : filter not specified
  destination ports : Eth1/1

  Legend: f = forwarding enabled, l = learning enabled
  ```
- Use the **show monitor session all** command in order to display all ERSPAN sessions configuration in the device.

Nexus 2:

- Use the **show monitor** command in order to display the status of the ERSPAN sessions.
  ```
  Nexus2# show monitor
  Session State         Reason                 Description
  ------- -----------   ---------------------  --------------------------------
  1       up            The session is up
  ```
- Use the **show monitor session [*session session_number*]** command in order to display the ERSPAN session configuration.
  ```
  Nexus2# show monitor session 1
     session 1
  ---------------
  type             : local
  state            : up
  ```

```
source intf        :
    rx             : Eth1/21        Eth1/22        Eth1/23
    tx             : Eth1/21        Eth1/22        Eth1/23
    both           : Eth1/21        Eth1/22        Eth1/23
source VLANs       :
    rx             : 15
    tx             : 15
    both           : 15
filter VLANs       : filter not specified
destination ports : Eth1/27        Eth1/28        Eth1/29        Eth1/30

Legend: f = forwarding enabled, l = learning enabled
```

Related Information

- **Switched Port Analyzer (SPAN) Support Page**
- **Remote Switched Port Analyzer (RSPAN) Support Page**
- **Cisco Nexus 7000 Series Switches Support Page**
- **Switches Product Support**
- **LAN Switching Technology Support**
- **Technical Support & Documentation - Cisco Systems**