

SPAN Configuration on a Nexus 7000 Series Switches

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Introduction

This document provides a sample configuration and verification for the Switched Port Analyzer (SPAN) on the Cisco Nexus 7000 series devices to monitor the traffic between Ethernet ports.

Prerequisites

Requirements

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

- Have a basic knowledge of configuration on Nexus 7000 Series Switches
- Have a basic understanding of Switched Port Analyzer (SPAN)

Components Used

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

The information in this document was created from the device 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.

SPAN Overview

SPAN for ethernet ports monitor all traffic for source port, which sends a copy of the traffic to a destination port. The network analyzer, which is attached with destination port, analyzes the traffic that passes through source port.

Source port can be a single port or multiple ports or a VLAN, which is also called a monitored port. You can monitor all the packets for source port which is received (ingress), transmitted (egress), or bidirectional (both). A replication of the packets is sent to the destination port for analyzation.

For VLAN-based SPAN (VSPAN), all ports in VLAN are source ports. So the traffic in the VLAN is monitored. You can apply VLAN based filter on trunk port of the switch to limit SPAN traffic monitor.

The destination port is a port that was connected to the device such as SwitchProbe device or other Remote Monitoring (RMON) probe or security device that can receive and analyze the copied packets from single or multiple source port.

Switch supports multiple SPAN sessions (up to 48 sessions), but only two sessions can be run simultaneously and others are shutdown. A port of the switch is configured as either the source port or the destination port.

Note: Span may use the same replication engine as multicast on the module and there is a physical limit to the amount of replication that each replication engine can do. Nexus 7000 modules have multiple replication engines for each module and under normal circumstances, multicast is unaffected by a span session. But it is possible to impact multicast replication if you have a large number of high rate multicast streams inbound to the module, and the port you monitor uses the same replication engine.

Configure

In this section, you are presented with the information to configure single SPAN session on Nexus 7000 Series Switch. In this example, the switch interface ethernet 3/11 has been configured as the source port and the interface ethernet 3/48 has been configured as the destination port.

In this configuration example, Step 1 shows you how to configure the destination port and Step 2 shows you how to configure a SPAN session.

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

Configurations

This document uses these configurations:

- Step 1
- Step 2

Step 1
<p>Destination port configuration</p> <pre>switch7000-1#configure terminal switch7000-1(config)#interface ethernet 3/48 !--- Configures the switchport parameters for a port. switch7000-1(config-if)#switchport !--- Configures the switchport interface as a SPAN destination. switch7000-1(config-if)#switchport monitor switch7000-1(config-if)#no shut</pre>

```
switch7000-1(config-if)#exit
```

Step 2

SPAN session configuration

```
switch7000-1(config)#monitor session 1

!---Configure the source port with traffic direction.

switch7000-1(config-monitor)#source interface ethernet 3/11 both

!--- Configure the destination port.

switch7000-1(config-monitor)#destination interface ethernet 3/48

!--- To enable the SPAN session, by default session in shutdown state.

switch7000-1(config-monitor)#no shut
switch7000-1(config-monitor)#exit

!--- To save the configurations in the device.

switch7000-1(config)#copy running-config startup-config
```

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.

The **show monitor** command gives the status of the SPAN sessions.

```
switch7000-1#show monitor

Session  State          Reason                               Description
-----  -
1         up                 The session is up
```

The **show monitor session all** command gives a summary of the current SPAN configuration.

```
switch7000-1#show monitor session all

session 1
-----
type           : local
state          : up
source intf    :
  rx           : Eth3/11
  tx           : Eth3/11
  both         : Eth3/11
source VLANs   :
  rx           :
  tx           :
  both         :
```

```
filter VLANs      : filter not specified
destination ports : Eth3/48
```

From these commands you can verify the SPAN configuration on the Nexus 7000 Series Switches.

Related Information

- [Switched Port Analyzer \(SPAN\) Support Page](#)
 - [Cisco Nexus 7000 Series Switches Support Page](#)
 - [Switches Product Support](#)
 - [LAN Switching Technology Support](#)
 - [Technical Support & Documentation – Cisco Systems](#)
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