ADTRAN

Quick Configuration Guide
Configuring Port Mirroring in AOS

Introduction

Port mirroring is a method of monitoring network traffic for incoming and/or outgoing packets from single or multiple ports of a switch. All Tx or Rx packets will be replicated to another port located on the same physical switch so the packets may be analyzed for a software program. Port mirroring is used by network administrators as a diagnostic and debugging tool to analyze network traffic. This feature may be configured in AOS via the GUI or CLI of the switch.

Port mirroring can be very helpful when attempting to troubleshoot a particular problem where packets that are entering and leaving a particular interface need to be captured. Unlike a Hub that is a single collision domain, a switch does not send all traffic out every interface, therefore it is important to be able to have the ability to "mirror" a particular port that way it is possible troubleshoot a problem on a certain port.

> **NOTE**
>
> *For port mirroring to work effectively, there will have to be a monitoring device connected to the destination port for the mirror. This device will need to run packet monitoring software to be able to recover what the switch is sending for troubleshooting measures.*

Hardware/Software Requirements and Limitations

Port mirroring is available on all of our switch products beginning in AOS 8.01.00 code. The NetVanta 1524ST only allows mirroring of Rx traffic. Rx and Tx traffic may be mirrored in all other ADTRAN switch products. Port Mirroring is available on AOS products with the Port Mirroring functionality as outlined in the AOS Feature Matrix- Product Feature Matrix, available online at https://supportforums.adtran.com/docs/DOC-1115.

Configuration in CLI

To configure the CLI for port mirroring, there are actually very few steps that need to be taken.

There are basically two commands needed to configure port mirroring:
1. Specify which port to mirror (the source port)
2. Specify which port is going to mirror the traffic (the destination port).

Use the **monitor session** command to configure a port mirroring session. Use the no form of this command to remove a port mirroring session or to remove a source or destination interface.

The following example will mirror all traffic from port 23 on port 15.

Switch(config)#monitor session 1 destination interface ethernet 0/15
Switch(config)#monitor session 1 source interface ethernet 0/23

> **NOTE**
> *Keep in mind that although it is necessary to enter the session number, there can only be one monitor session, therefore the only available monitor session is "1."*

Variations of the **monitor session** command include the following:
monitor session *<number>* **destination interface** *<interface>* **no-isolate**
monitor session *<number>* **destination interface** *<interface>* **no-tag**
monitor session *<number>* **destination interface** *<interface>* **no-isolate no-tag**
monitor session *<number>* **destination interface** *<interface>* **no-tag no-isolate**
monitor session *<number>* **source interface** *<interface>*
monitor session *<number>* **source interface** *<interface>* **both**
monitor session *<number>* **source interface** *<interface>* **rx**
monitor session *<number>* **source interface** *<interface>* **tx**

The different options shown in the variations above are:

<number> Selects the monitor session number (only one is allowed).

destination - Selects the destination interface.

source - Selects the source interface(s). A range of interfaces is allowed.

interface *<interface>* - Specifies an interface in the format *<interface type [slot/port | slot/port.sub-interface id | interface id | interface id.sub-interface id]>*. For example, for an Ethernet interface, use **eth 0/1**. Type **monitor session** *<number>* **[destination | source] interface ?** for a complete list of valid interfaces. It is possible to monitor multiple source ports at the same time. To do this, state the range (if they are contiguous): **monitor session 1 source interface ethernet 0/1-4**

both - Optional. Monitors both transmitted and received traffic.

rx - Optional. Monitors received traffic only.

tx - Optional. Monitors transmitted traffic only.

no-tag - In some situations, it may be important to monitor traffic on a trunk port. In this situation, it is important not to tag the VLAN traffic so that it is easier to analyze from a

packet capture. This option removes the VLAN tag that is normally appended to mirrored traffic.

no-isolate - Allows native traffic to continue to pass on the port set as the mirroring session destination.

Default Values
By default, traffic is monitored in both directions. Also by default, the destination port is isolated from passing native traffic.

Usage Examples
The following example sets Ethernet 0/1 as the destination interface and adds Ethernet 0/2, Ethernet 0/3 as source ports:
(config)#**monitor session 1 destination interface eth 0/1**
(config)#**monitor session 1 source interface eth 0/2-3**

The following example sets Gigabit-Switchport 0/1 as the destination interface and removes the VLAN tag:
(config)#**monitor session 1 destination interface gigabit-switchport 0/1 no-tag**

The following example sets Switchport 0/1 as the source interface and monitors both transmitted and received traffic:
(config)#**monitor session 1 source interface switchport 0/1 both**

The following example sets Switchport 0/2 through Switchport 0/12 as source interfaces and monitors only received traffic:
(config)#**monitor session 1 source interface eth 0/2-12 rx**

Configuration in Web GUI

To configure port mirroring from the Web GUI, navigate to the port mirroring sub-menu under Utilities.

Once in this menu, choose the **Destination Port** to monitor from the drop down box:

Port Mirroring

Use this dialog to set up Port Mirroring. Use the table below to edit an existing mirroring session. Only one port can be selected as a destination port at one time. Multiple source ports can be added.

NOTE: Ports that are part of a Port Channel or that have Port Security or Port Authentication enabled will not appear in the Destination Port list.

Destination Port:	Disabled	*This port will become a mirror of the selected source port*
No-Tag:	☐	*Do not tag monitored traffic.*
No-Isolate:	☐	*Do not isolate the port from receiving traffic.*
Source Port:	Disabled	*Data from the selected port(s) will be mirrored to the destination port*
Traffic Type:	TX/RX	*Traffic to mirror on the destination port*

Reset   Add

Modify/Delete Mirroring Source Ports

To modify existing source port, click on the desired row and use the template above.

☐	Source Port	Mirrored Traffic
	There are no monitor session source ports configured.	

Remove

After selecting the proper port from this menu, select not to tag VLAN traffic if needed.

Next, select the **Source Port** to mirror. To do this, simply select the port from the drop down menu

Finally, click **Add**.

To add additional source ports to be monitored, select another port from the **Source Port** drop down menu, click **Add**.

Troubleshooting

A good command to verify the correct ports are being monitored is:

Syntax: **show monitor session** [all | *<1-1>*]

This command is available from the Enable mode context. Below is the output of a show monitor session where Switchport 0/1 is monitoring all traffic from Switchport 0/2:

Switch#**show monitor session all**

```
Monitor Session 1
-----------------
Source Ports:
  RX Only:  None
  TX Only:  None
  Both:     swx 0/2
Destination Port: swx 0/1
```