



# Network Probe Deployment Guidelines Application Note

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## Introduction

This document provides a comprehensive guide on how to configure port mirroring on Alcatel-Lucent Enterprise OmniSwitch AOS8. Port mirroring is a critical network management feature that involves copying network traffic from one or multiple source ports to a designated monitoring port. This functionality is essential for integrating network probes, which are devices or software applications used for monitoring network traffic.

Port mirroring can be used in different scenarios, such as network traffic monitoring and Intrusion Detection Systems (IDS). Network traffic monitoring is vital for understanding network performance, detecting anomalies, and optimizing data flow. In the context of IDS, port mirroring enables the capture of network packets in real-time, allowing for the detection and analysis of potential security threats.

If all the steps and prerequisites are followed, the process should work smoothly without any issues.

## Prerequisites

Before proceeding with the configuration, make sure the following prerequisites have been met:

- Knowledge of the source and destination ports to be used for port mirroring.
- Physical connectivity between the ALE equipment and the probe.

## Port Monitoring

Port monitoring involves capturing packets on a specified port and then saving these packets to a file, this is typically done for later analysis.

Unlike port mirroring, port monitoring is not suitable for real-time analysis since it involves storing data for later review. It's more about capturing and recording network traffic for subsequent analysis rather than real-time observation.

## Policy Based Mirroring

This method allows mirroring based on specific policies, like mirroring packets from a certain source IP. Only one policy-based MTP (Mirror-to-Port) session is supported at a time. It also operates in software, which can be less efficient for high-speed, real-time network analysis compared to hardware-based solutions like port mirroring.

## Port Mirroring Configuration

Use the port-mirroring command to configure port mirroring on AOS 8. The command syntax is as follows:

```
port-mirroring <id_mirroring> source port <chassis/slot/port> destination port <chassis/slot/port>
```

Figure 1: Port Mirroring Configuration

- <id\_mirroring> is a unique identifier that you assign to the port mirroring.
- <chassis/slot/port> is the location of the source port you want to monitor.
- <chassis/slot/port> is the location of the destination port where mirrored traffic will be redirected.

In configuring port mirroring, the direction of traffic to be monitored can be specified. By default, mirroring is:

- **bidirectional**, capturing both inbound and outbound traffic.

Yet, for targeted monitoring, you can select:

- **import** for incoming, **export** for outgoing, or **bidirectional** to monitor both.

If a session is set to import or export and needs to be changed back, reapply the command with **bidirectional** to reset it.

Here are some examples of configuring port mirroring with different traffic directions:

```
port-mirroring 6 source port 1/2/3 destination port 1/6/4 import
port-mirroring 6 source port 1/2/3 destination port 1/6/4 export
port-mirroring 6 source port 1/2/3 destination port 1/6/4 bidirectional
```

Figure 2: Port Mirroring Options

In addition, to protect the mirroring port from being blocked by the Spanning Tree Protocol, use the unblocked-vlan option in your configuration command. This assigns a specific VLAN to the mirroring port, allowing inbound traffic for that VLAN while keeping Spanning Tree disabled.

```
port-mirroring 6 source port 1/2/3 destination port 1/2/4 unblocked-vlan 750
```

Figure 3: Port Mirroring Protection from Spanning Tree

Then, you can use the show port-mirroring command to verify that the port mirroring configuration has been applied correctly.

```
show port-mirroring status
```

Figure 4: Port Mirroring Verification

Once port mirroring is configured, connect the probe to the designated destination port on the switch.

## Conclusion

This guide has provided a detailed overview of how to effectively configure port mirroring on Alcatel-Lucent Enterprise OmniSwitch AOS8. The implementation of port mirroring is a pivotal aspect in network management, crucial for enabling comprehensive network traffic monitoring and integrating with network probes for advanced analysis, including Intrusion Detection Systems (IDS).

The guide outlines the prerequisites necessary for a successful configuration, including understanding the specific source and destination ports and ensuring proper physical connectivity between the ALE equipment and the network probe. It also elaborates on the various aspects of port mirroring configuration, including the selection of traffic direction—whether inbound, outbound, or both, and the option to safeguard against Spanning Tree Protocol blockages.