Perform a Packet Capture on SD-WAN vManage

Contents

Introduction

This document describes how to do a Packet Capture on a Cisco SD-WAN vManage.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Cisco Software-defined Wide Area Network (SD-WAN)
- Packet analyzer

Components Used

This document is based on these software and hardware versions:

- vManage 20.9.4

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, ensure that you understand the potential impact of any command.

Background Information

Background information contains the explanation of what is the Packet Capture feature on a vManage, the benefits to use this tool and the number protocols that can be used to filter the interested traffic.

The Packet Capture on the vManage allows to capture and analyze packet traffic on the SD-WAN network. Here are some important benefits to use this tool:

Problem Diagnosis: Packet capture is a valuable tool for troubleshooting network problems. This can be used to analyze packets and determine the cause of performance, latency, or packet loss issues.

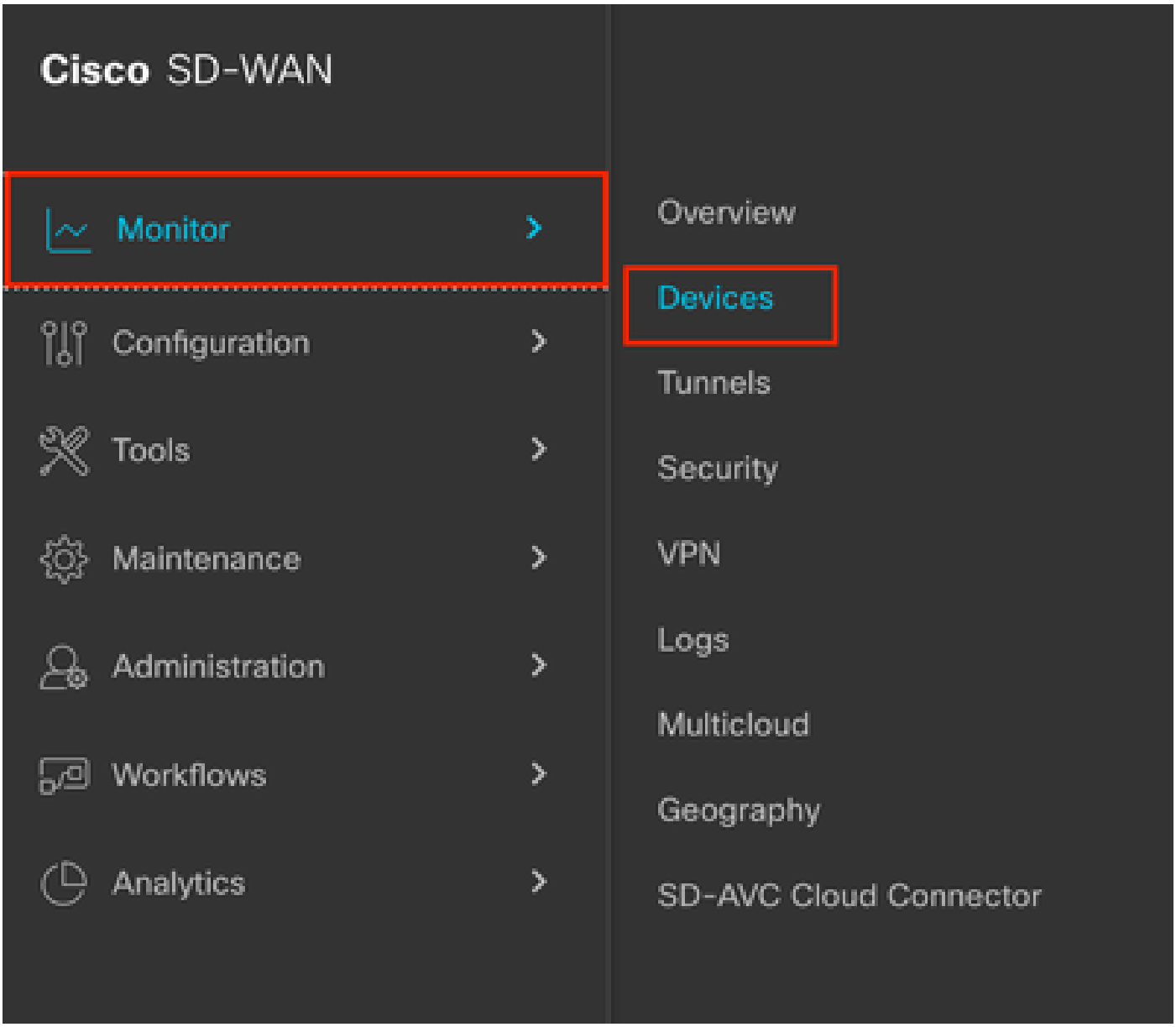
Filtering and Selective Capture: vManage allows you to configure filters to capture only relevant traffic, which reduces the load on the network and makes it easier to analyze specific packets.

Security: This feature can be used to identify malicious traffic patterns or suspicious activity on the network.

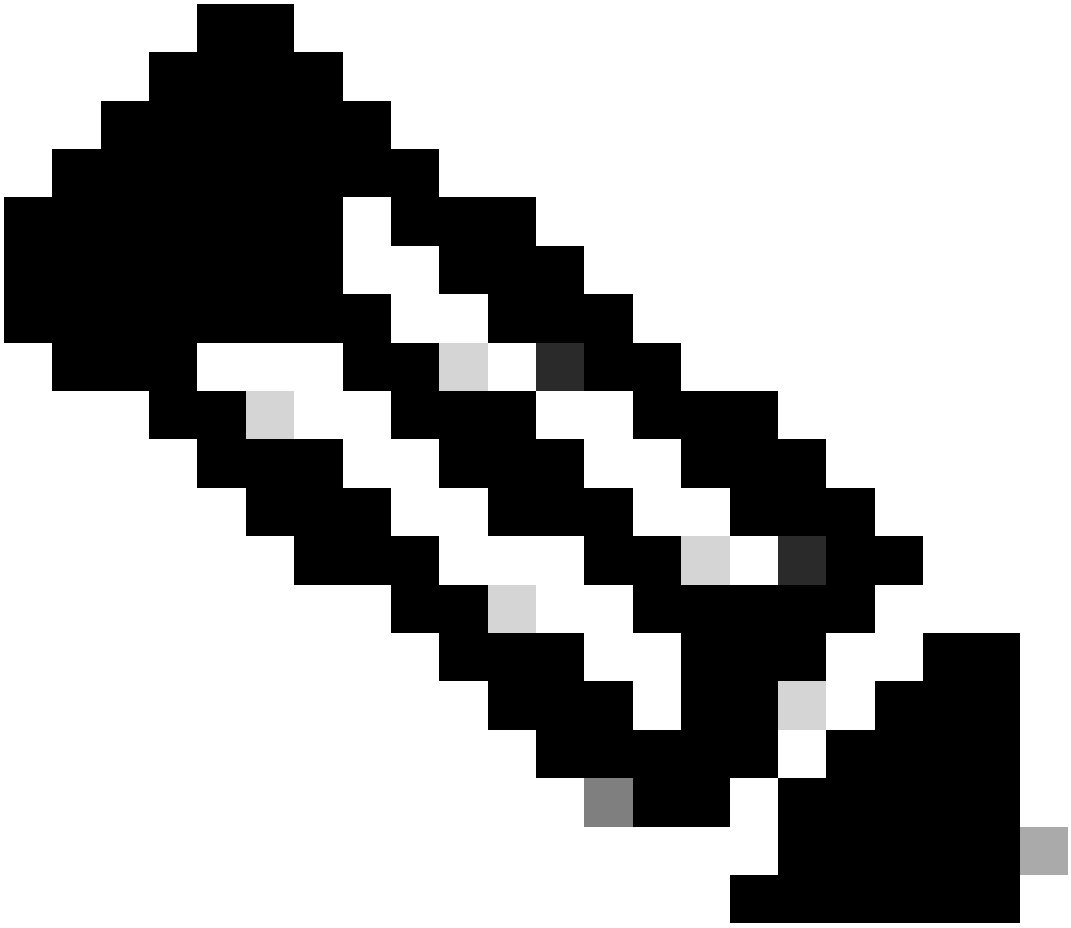
Decimal	Initials	Protocol	RFC
1	ICMP	Internet Control Message Protocol	RFC 792
2	IGMP	Internet Group Management Protocol	RFC 1112
4	IP	IP en IP (encapsulación)	RFC 2003
6	TCP	Transmission Control Protocol	RFC 793
8	EGP	Exterior Gateway Protocol	RFC 888
9	IGP	Interior Gateway Protocol	
17	UDP	User Datagram Protocol	RFC 768
41	IPv6	Encapsulación IPv6	RFC 2460
47	GRE	Generic Route Encapsulation	
50	ESP	Encapsulating Security Payload	RFC 2406
88	EIGRP	EIGRP	
89	OSPF	Open Shortest Path First	RFC 1583
112	VRRP	Virtual Router Redundancy Protocol	RFC 3768

Procedure

Step 1. Navigate to **Monitor > Devices.**



Step 2. Filter the device and click on the blue letters.



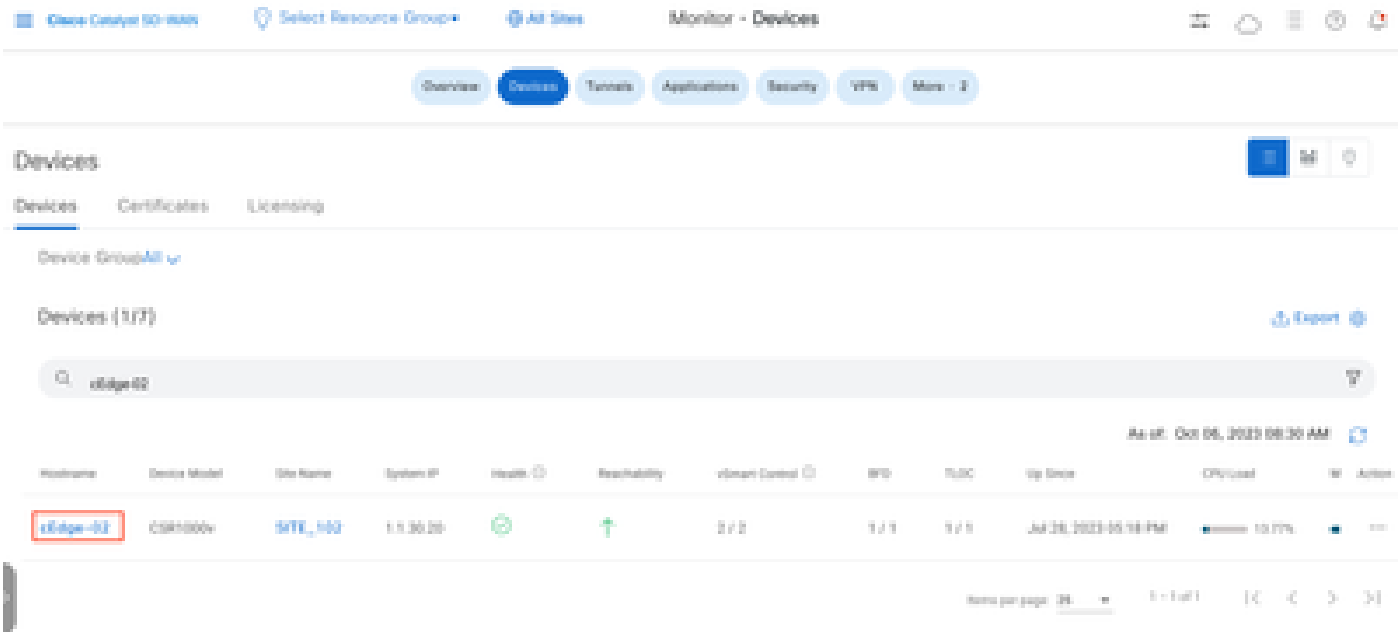
Note:

For 20.8.x and older releases bidirectional option is not present. Therefore, there are two scenarios to use packet capture feature:

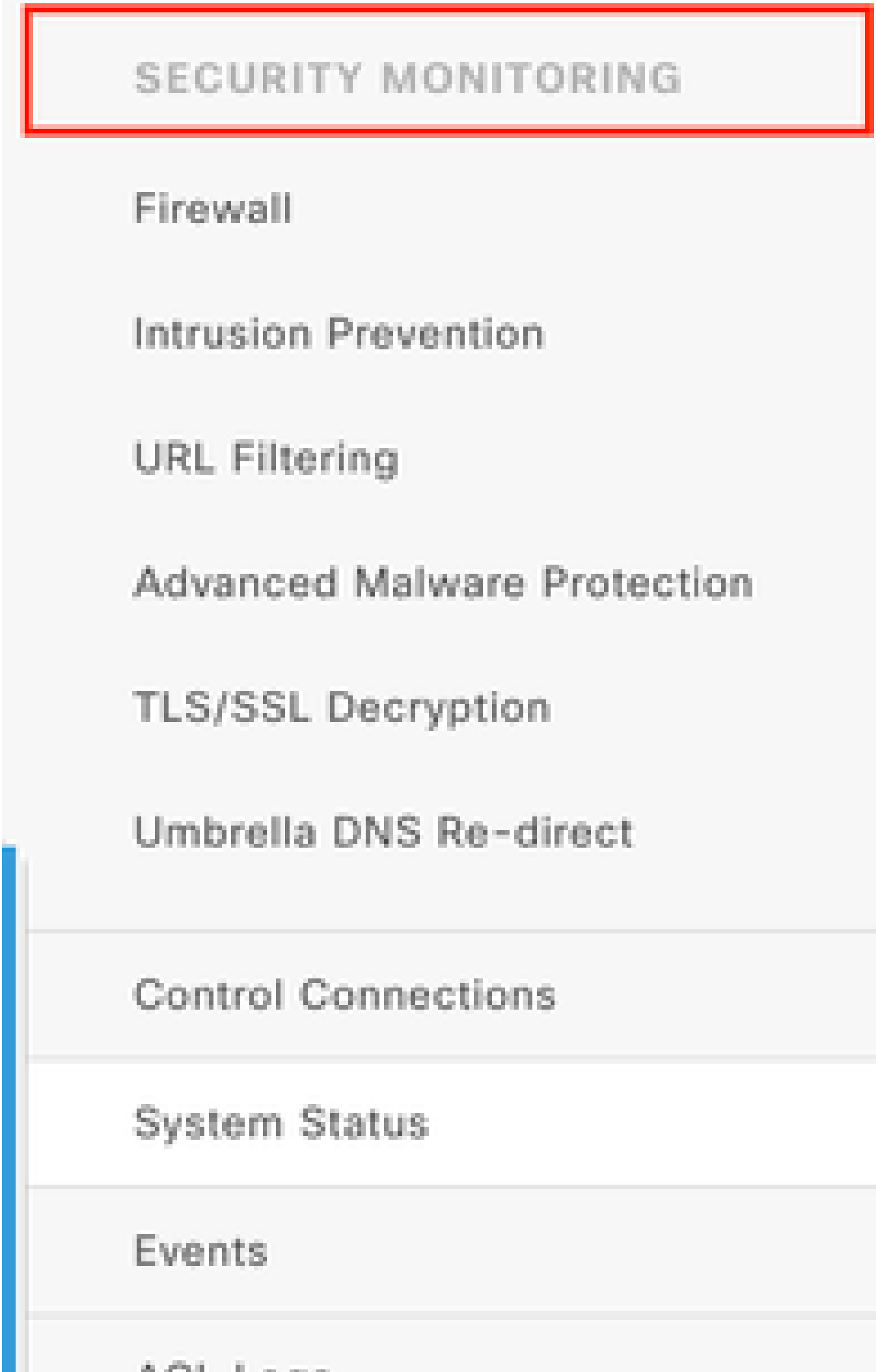
Unidirectional: If **Source IP, Destination IP,** or both are filtered, the packets are captured only in one direction (from source to destination).

Bidirectional: If none of Traffic Filter options are used, the packets are captured in both directions.

For 20.9.x and later releases: **Bidirectional** option is present in these versions. Therefore, if **Source IP, Destination IP,** or both are filtered, the direction can be selected as Unidirectional or Bidirectional.



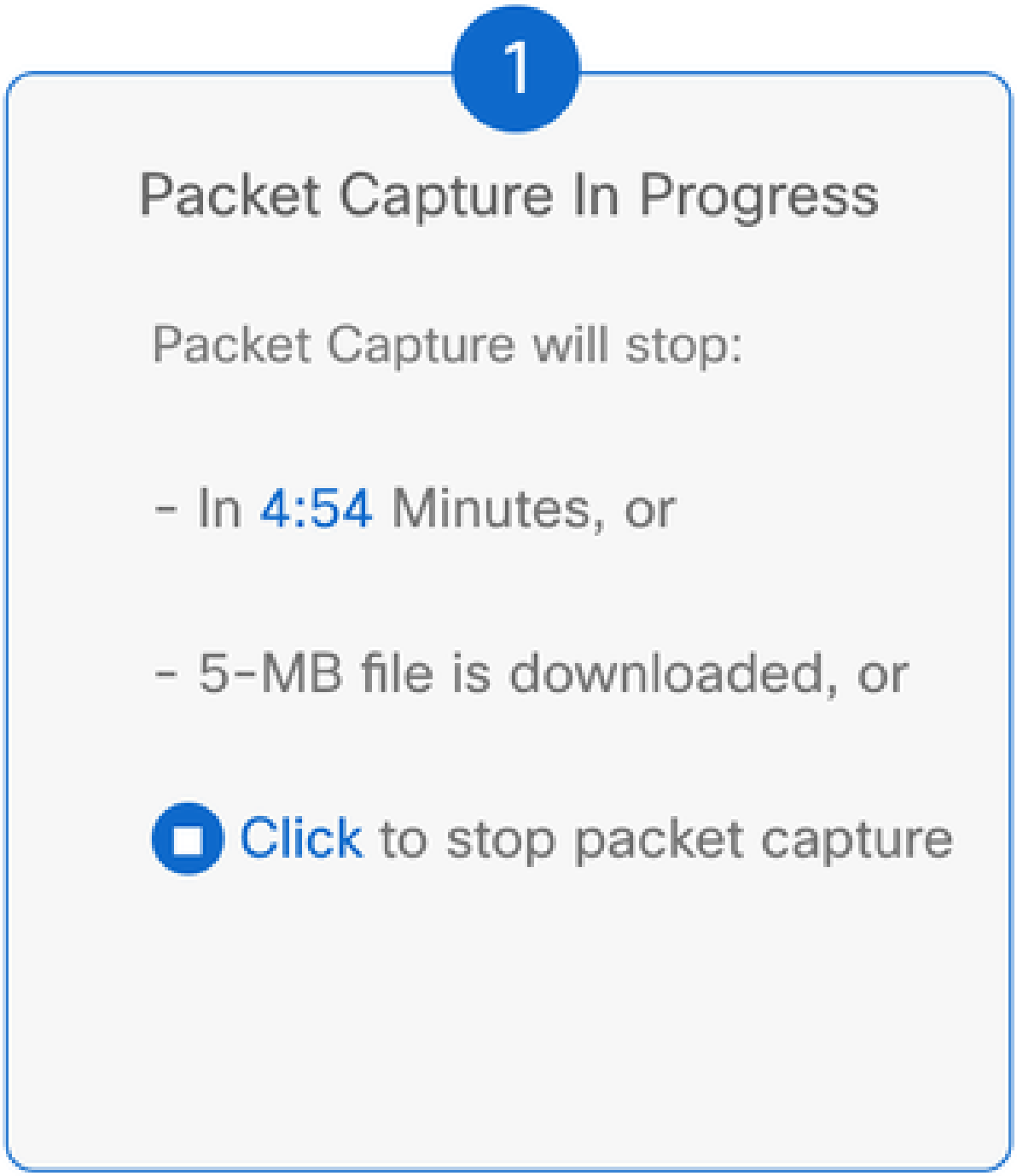
Step 3. Navigate to **Security Monitoring > Troubleshooting.**


SECURITY MONITORING
Firewall
Intrusion Prevention
URL Filtering
Advanced Malware Protection
TLS/SSL Decryption
Umbrella DNS Re-direct
Control Connections
System Status
Events

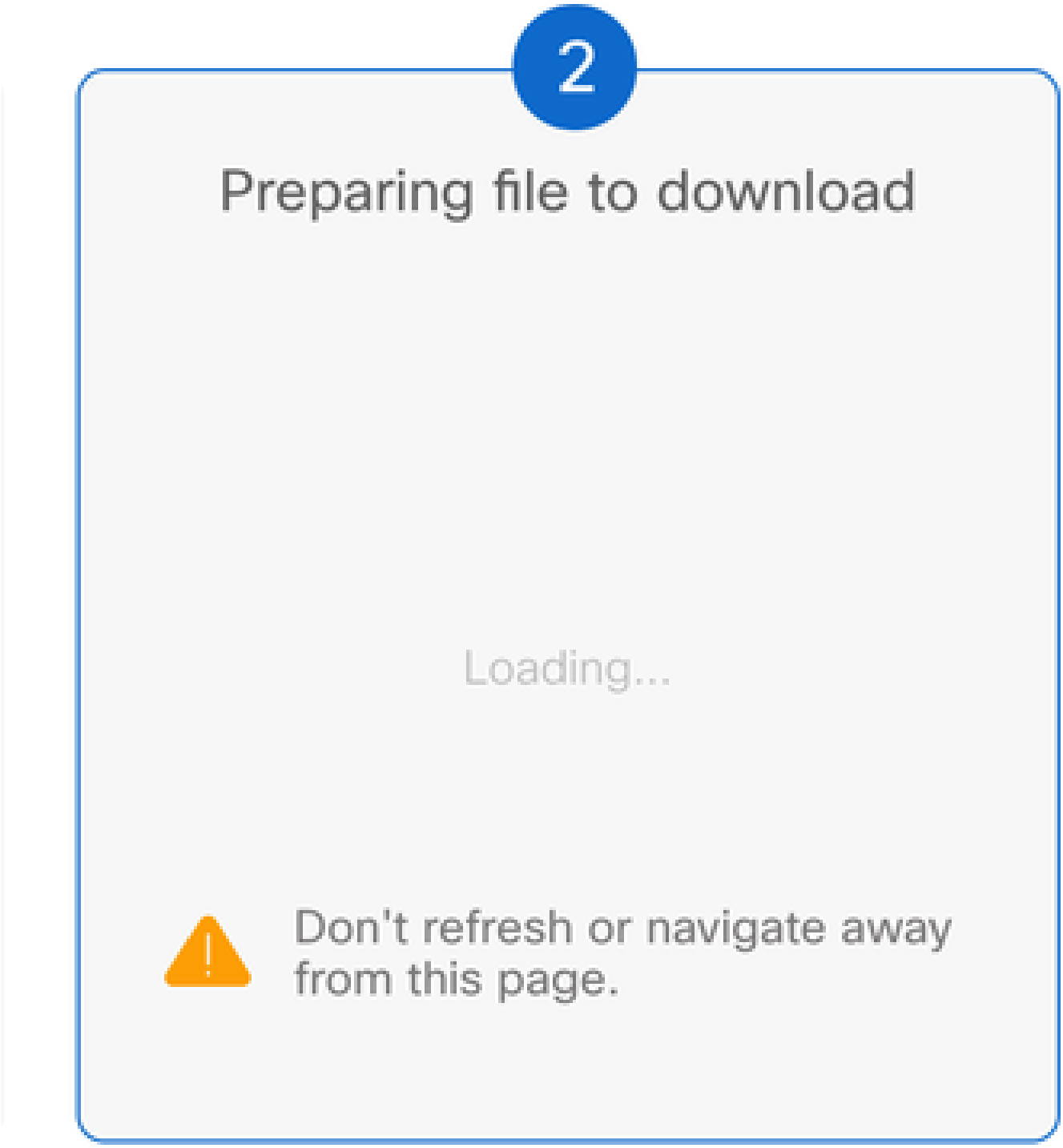
: For this document the protocol 17 (UDP) was selected but you can use the protocol needed, to do this please refer to the list of the most important protocols on this document.

Step 7. Once you have all the needed values to do the capture click on **Start.**

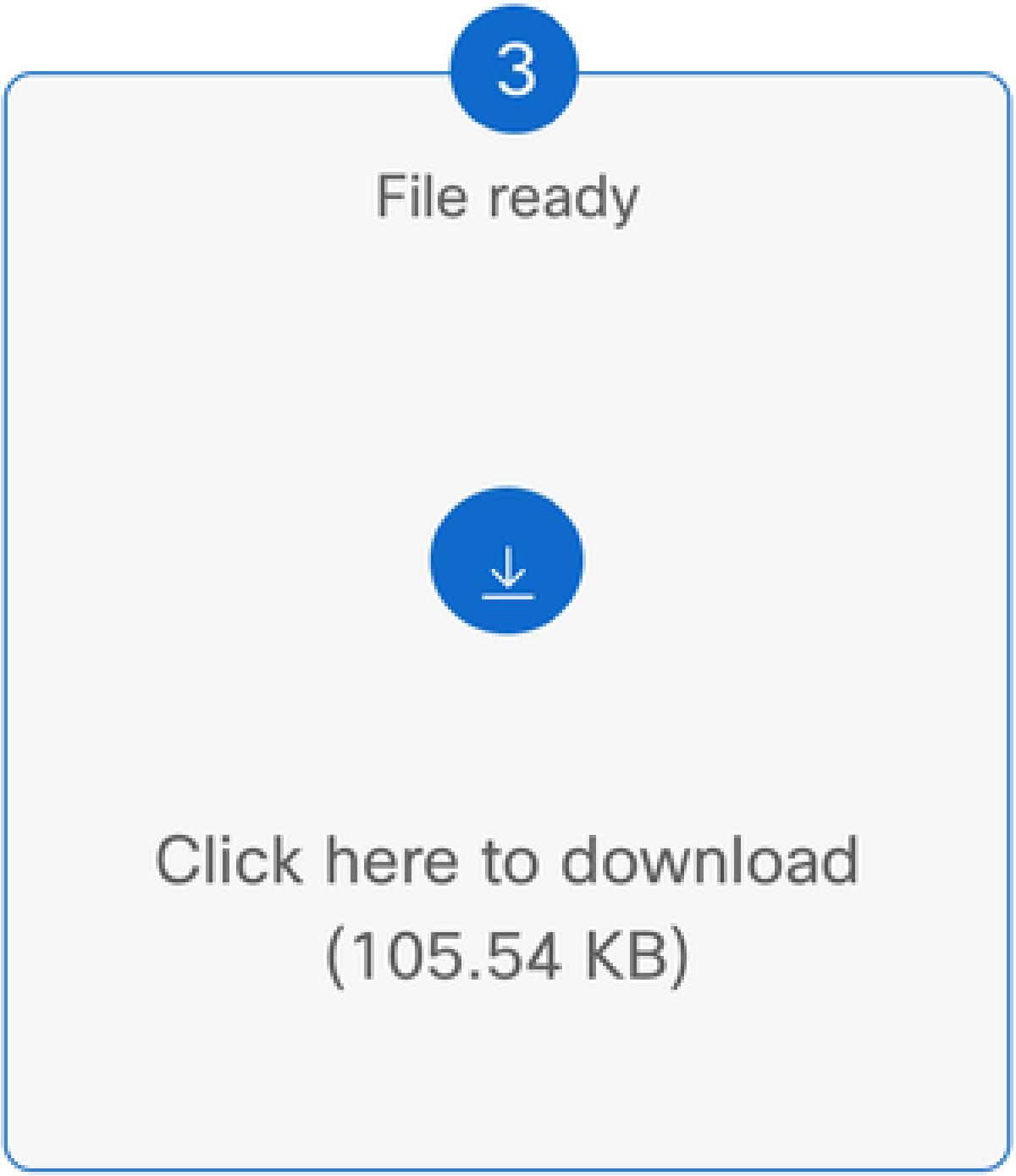
Step 8. The vManage then starts to capture the packets with the filters specified, you can stop it as soon as you get enough packets sent.



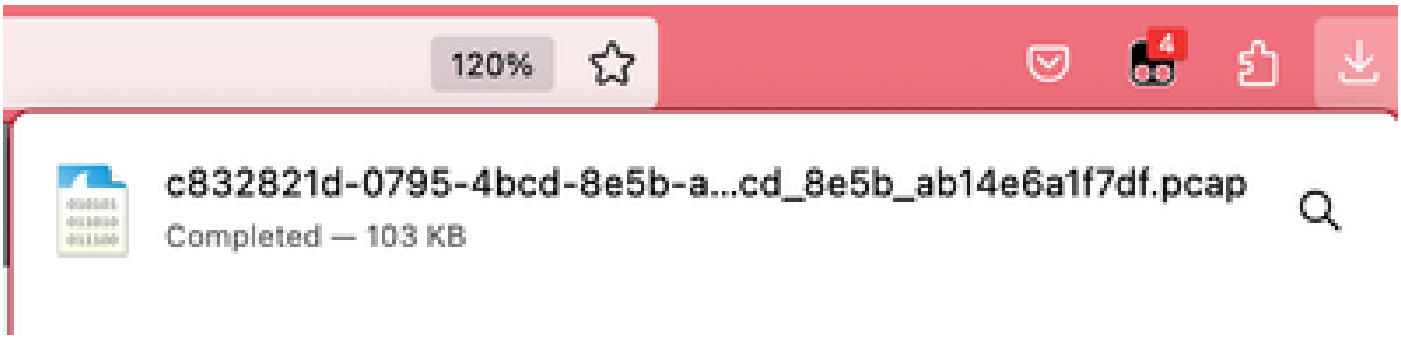
Step 9. Wait the vManage to prepare the file to be downloaded.



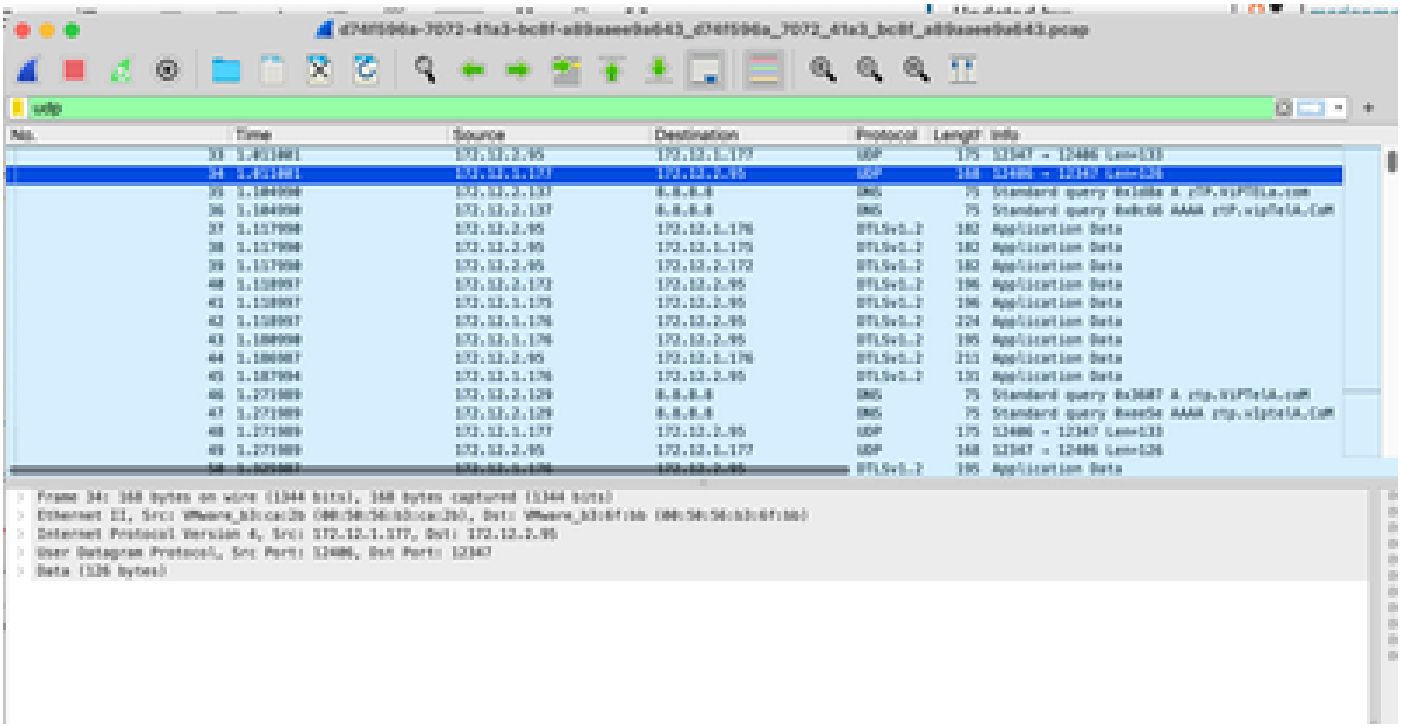
Step 10. Then Download the Packet Capture file.



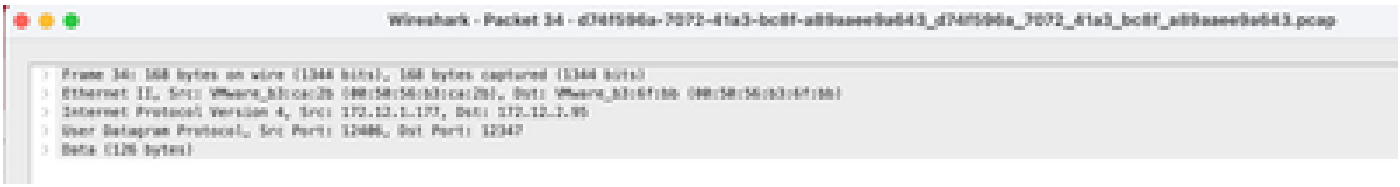
Step 11. The capture is now on your files, open it with a Packet analyzer suck as Wireshark.



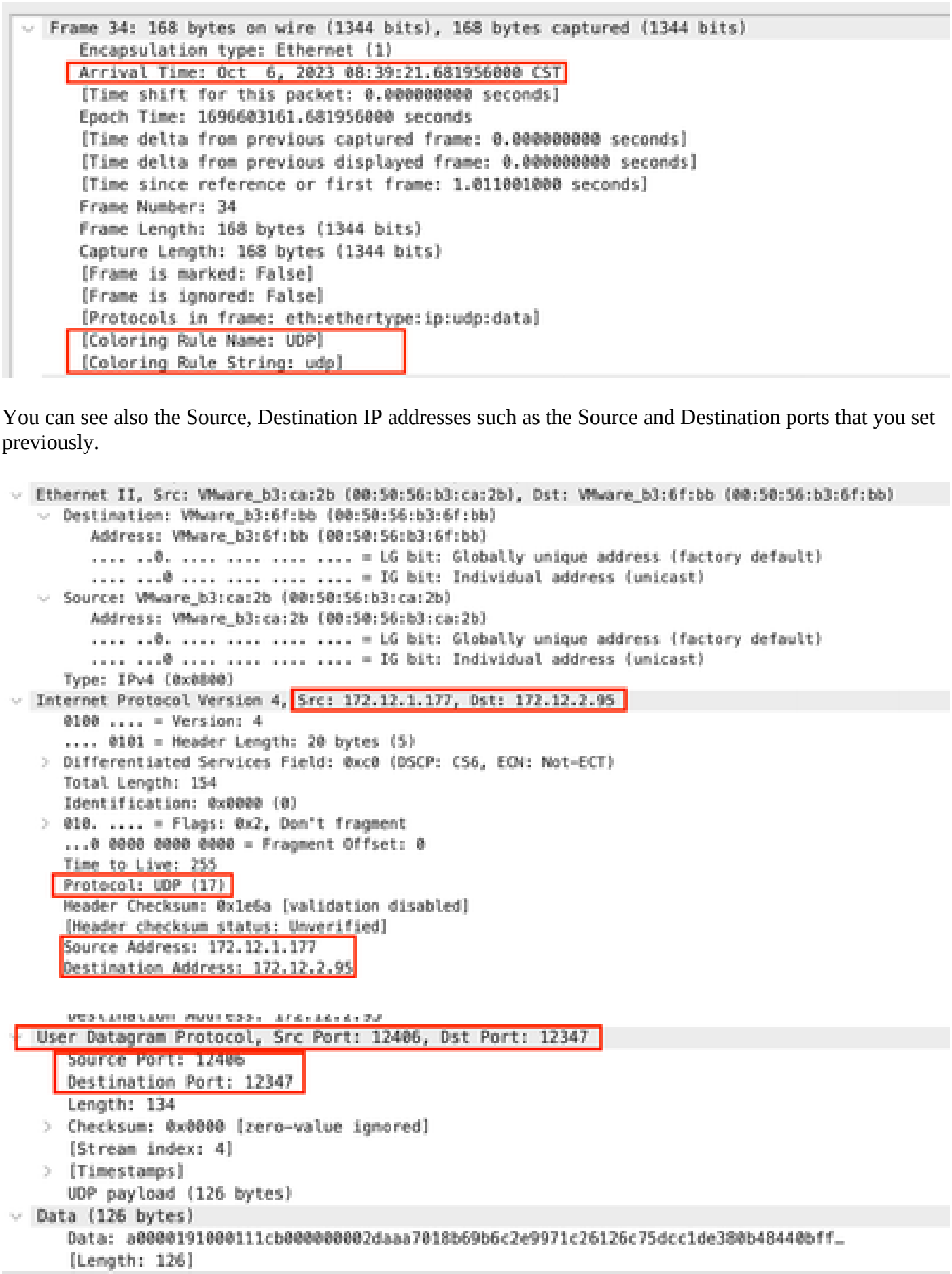
As you can see, there is a lot useful information that the capture can give, here the UDP packets were captured as expected.



When you open the UDP packet you see the information contained on it.



On frame information you can see information such **Arrival Time, Coloring Rule Name, Coloring Rule String.**



You can see also the Source, Destination IP addresses such as the Source and Destination ports that you set previously.

Related Information

Cisco vManage How-Tos for Cisco IOS XE SD-WAN Devices