How To Guide:

Diagnose Network with Packet Sniffer

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Packet sniffer is commonly used to diagnose network-related problems. The following are the parameters commonly used for ***Packet sniffer*** on the appliance:

1. and = “&&” ; or = “||“ ; not = ” ! ”
2. tcp 、 udp 、 arp 、 icmp
3.
   - -i Listen on interface. (Listen on all interfaces by default)
   - -I Put the interface in "monitor mode"
   - -v Produce verbose output.
   - -n Do not convert host addresses to names.

Signal of output: S (SYN) ; P (PUSH) ; R (RST) ; F (FIN)

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Examples:

1.Sniffer 192.168.1.0/24 's icmp packets and exclude 192.168.1.26

icmp and net 192.168.1.0/24 and ! 192.168.1.26

2.Sniffer all IPSEC service

proto 50 or proto 51 or port 500 or port4500

3.Sniffer 10.10.10.1's traffic on port 1 , exclude icmp and ssh

-i eth0 host 10.10.10.1 and not icmp and not port 22

4.Sniffer source Ip = 192.168.1.26 or source subnet = 192.168.1.0/24

src 192.168.1.26 ; src net 192.168.1.0/24

5.Sniffer source port = 21 or destination port = 80

src port 21 ; dst port 80

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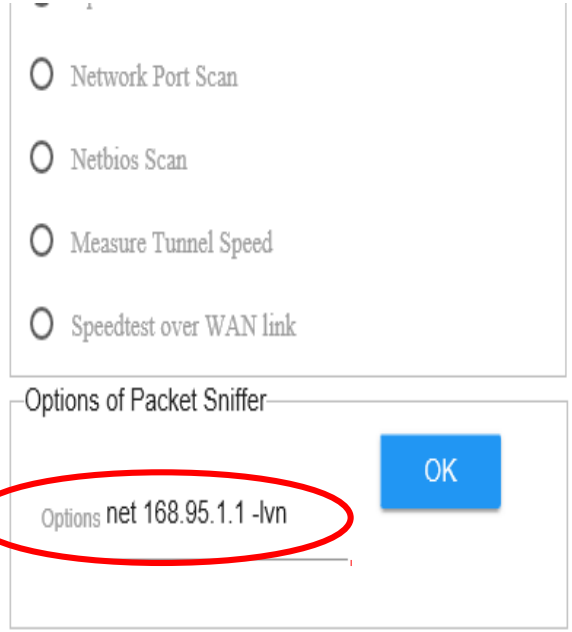
For the NATed networks, running the command ***tcpdump*** using destination IP as a parameter is required if you need to examine the full path of packet flows. For example, to capture ***ping*** packets destined for 168.95.1.1 in a NATed network, the following are the commands for your reference:
*net dst. IP (e.g., **net 168.95.1.1**),*
*subnet (e.g., **net 168.95.1.1/32**),*
*host IP (e.g., **host 168.95.1.1**)*

```
192.168.1.26 > 168.95.1.1: ICMP echo request, id 1, seq 21144, length 40
13:47:16.529802 device eth0_6, direction OUT: IP (tos 0x0, ttl 127, id 3599, offset 0, flags [none], proto ICMP (1), length 60)
203.67.222.40 > 168.95.1.1: ICMP echo request, id 1, seq 21144, length 40
13:47:16.529804 device eth0, direction OUT: IP (tos 0x0, ttl 127, id 3599, offset 0, flags [none], proto ICMP (1), length 60)
203.67.222.40 > 168.95.1.1: ICMP echo request, id 1, seq 21144, length 40
13:47:16.549288 device eth0, direction IN: IP (tos 0x0, ttl 245, id 37886, offset 0, flags [DF], proto ICMP (1), length 60)
168.95.1.1 > 203.67.222.40: ICMP echo reply, id 1, seq 21144, length 40
13:47:16.549288 device eth0_6, direction IN: IP (tos 0x0, ttl 245, id 37886, offset 0, flags [DF], proto ICMP (1), length 60)
168.95.1.1 > 203.67.222.40: ICMP echo reply, id 1, seq 21144, length 40
13:47:16.549343 device eth3_5, direction OUT: IP (tos 0x0, ttl 244, id 37886, offset 0, flags [DF], proto ICMP (1), length 60)
```



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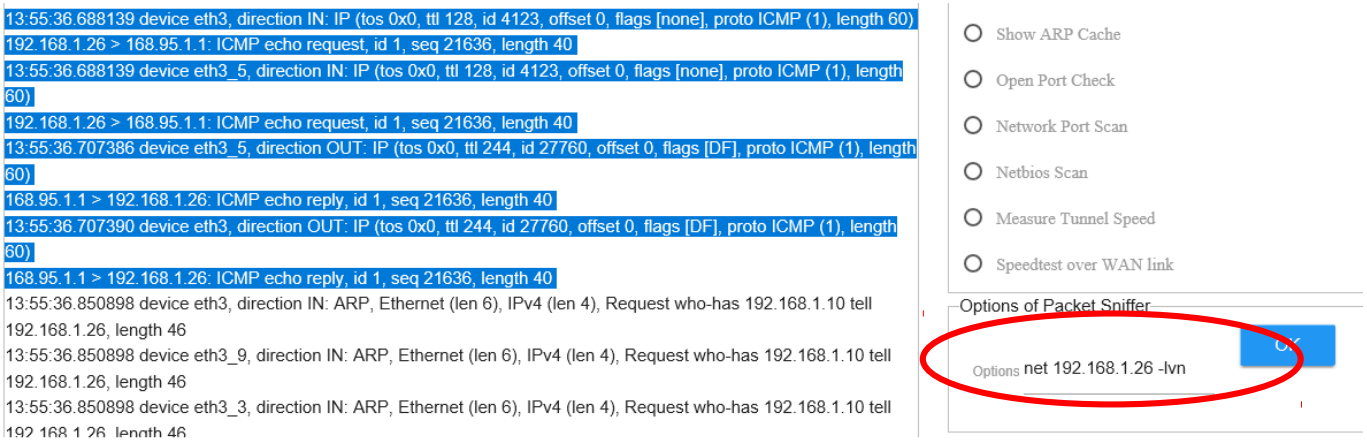
Base on the previous case, the following is the command to capture packets using source IP 192.168.1.26 as a parameter.

net 192.168.1.26 -lvn



The following command is to capture ***ping*** packets from IP 192.168.1.26.