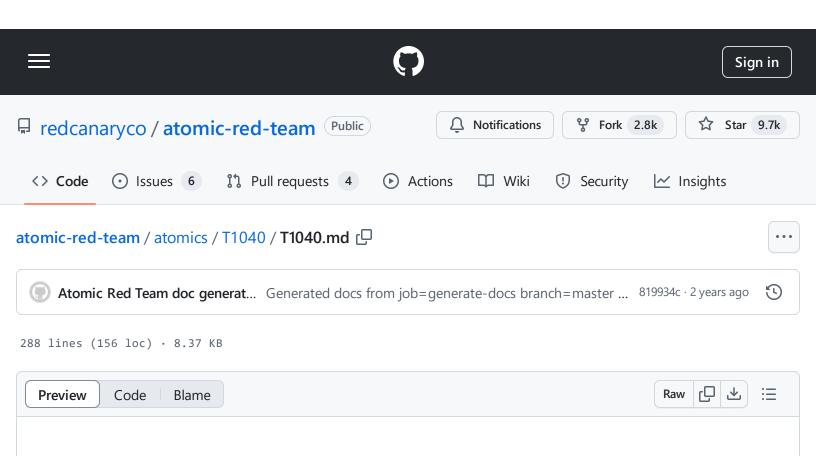
atomic-red-team/atomics/T1040/T1040.md at f339e7da7d05f6057fdfcdd3742bfcf365fee2a9 · redcanaryco/atomic-red-team · GitHub - 31/10/2024 14:44 https://github.com/redcanaryco/atomic-red-team/blob/f339e7da7d05f6057fdfcdd3742bfcf365fee2a9/atomics/T1040/T1040.md



# T1040 - Network Sniffing

# **Description from ATT&CK**

Adversaries may sniff network traffic to capture information about an environment, including authentication material passed over the network. Network sniffing refers to using the network interface on a system to monitor or capture information sent over a wired or wireless connection. An adversary may place a network interface into promiscuous mode to passively access data in transit over the network, or use span ports to capture a larger amount of data.

Data captured via this technique may include user credentials, especially those sent over an insecure unexcrypted protocol. Techniques for name service resolution poisoning, such as

insecure, unencrypted protocol. Techniques for name service resolution poisoning, such as <a href="LLMNR/NBT-NS"><u>LLMNR/NBT-NS Poisoning and SMB Relay</u></a>, can also be used to capture credentials to websites, proxies, and internal systems by redirecting traffic to an adversary.

Network sniffing may also reveal configuration details, such as running services, version numbers, and other network characteristics (e.g. IP addresses, hostnames, VLAN IDs) necessary for subsequent Lateral Movement and/or Defense Evasion activities.

In cloud-based environments, adversaries may still be able to use traffic mirroring services to sniff network traffic from virtual machines. For example, AWS Traffic Mirroring, GCP Packet Mirroring, and Azure vTap allow users to define specified instances to collect traffic from and specified targets to send collected traffic to.(Citation: AWS Traffic Mirroring) (Citation: GCP Packet Mirroring) (Citation: Azure Virtual Network TAP) Often, much of this traffic will be in cleartext due to the use of TLS termination at the load balancer level to reduce the strain of encrypting and decrypting traffic.(Citation: Rhino Security Labs AWS VPC Traffic Mirroring) (Citation: SpecterOps AWS Traffic Mirroring) The adversary can then use exfiltration techniques such as Transfer Data to Cloud Account in order to access the sniffed traffic. (Citation: Rhino Security Labs AWS VPC Traffic Mirroring)

#### **Atomic Tests**

- Atomic Test #1 Packet Capture Linux
- Atomic Test #2 Packet Capture macOS
- Atomic Test #3 Packet Capture Windows Command Prompt
- Atomic Test #4 Windows Internal Packet Capture
- Atomic Test #5 Windows Internal pktmon capture
- Atomic Test #6 Windows Internal pktmon set filter

## **Atomic Test #1 - Packet Capture Linux**

Perform a PCAP. Wireshark will be required for tshark. TCPdump may already be installed.

Upon successful execution, tshark or tcpdump will execute and capture 5 packets on interface ens33.

Supported Platforms: Linux

auto\_generated\_guid: 7fe741f7-b265-4951-a7c7-320889083b3e

Inputs:

| Name Description Typ | e Default Value |
|----------------------|-----------------|
|----------------------|-----------------|

| interface Specify interface to perform PCAP on. | String | ens33 |
|---|--------|-------|
|---|--------|-------|

Attack Commands: Run with bash! Elevation Required (e.g. root or admin)

```
tcpdump -c 5 -nnni #{interface}
tshark -c 5 -i #{interface}
```

Dependencies: Run with bash!

Description: Check if at least one of tcpdump or tshark is installed.

**Check Prereq Commands:** 

```
if [ ! -x "$(command -v tcpdump)" ] && [ ! -x "$(command -v tshark)" ]; then exit : □
```

**Get Prereq Commands:** 

```
(which yum && yum -y install epel-release tcpdump tshark)||(which apt-get && DEBIAI □
```

#### **Atomic Test #2 - Packet Capture macOS**

Perform a PCAP on macOS. This will require Wireshark/tshark to be installed. TCPdump may already be installed.

Upon successful execution, tshark or tcpdump will execute and capture 5 packets on interface en0A.

Supported Platforms: macOS

auto\_generated\_guid: 9d04efee-eff5-4240-b8d2-07792b873608

Inputs:

| Name | Description | Туре | Default Value |
|------|-------------|------|---------------|
|------|-------------|------|---------------|

| interface | Specify interface to perform PCAP on. | String | en0A |  |
|-----------|---------------------------------------|--------|------|--|
|           | -1 /                                  | J 3    |      |  |

Attack Commands: Run with bash! Elevation Required (e.g. root or admin)

```
sudo tcpdump -c 5 -nnni #{interface}
if [ -x "$(command -v tshark)" ]; then sudo tshark -c 5 -i #{interface}; fi;
```

Dependencies: Run with bash!

Description: Check if at least one of tcpdump or tshark is installed.

**Check Prereq Commands:** 

```
if [ ! -x "$(command -v tcpdump)" ] && [ ! -x "$(command -v tshark)" ]; then exit : □
```

**Get Prereq Commands:** 

```
(which yum && yum -y install epel-release tcpdump tshark) | | (which apt-get && DEBIAI ☐
```

#### **Atomic Test #3 - Packet Capture Windows Command Prompt**

Perform a packet capture using the windows command prompt. This will require a host that has Wireshark/Tshark installed.

Upon successful execution, tshark will execute and capture 5 packets on interface "Ethernet".

Supported Platforms: Windows

auto\_generated\_guid: a5b2f6a0-24b4-493e-9590-c699f75723ca

Inputs:

| Name | Description | Туре | Default Value |
|------|-------------|------|---------------|
|------|-------------|------|---------------|

| interface     | Specify interface to perform PCAP on.  | String | Ethernet   |
|---------------|--|--------|--|
| wireshark_url | wireshark<br>installer<br>download URL | Url    | https://1.eu.dl.wireshark.org/win64/Wireshark-<br>win64-latest.exe |
| tshark_path   | path to tshark.exe                     | Path   | c:\program files\wireshark\tshark.exe                              |
| npcap_url     | npcap installed<br>download URL        | Url    | https://nmap.org/npcap/dist/npcap-1.31.exe                         |
| npcap_path    | path to npcap.sys                      | Path   | C:\Program Files\Npcap\npcap.sys                                   |

Attack Commands: Run with command\_prompt! Elevation Required (e.g. root or admin)

```
"c:\Program Files\Wireshark\tshark.exe" -i #{interface} -c 5
```

Dependencies: Run with powershell!

Description: tshark must be installed and in the default path of "c:\Program Files\Wireshark\Tshark.exe".

**Check Prereq Commands:** 

```
if (test-path "#{tshark_path}") {exit 0} else {exit 1}
```

**Get Prereq Commands:** 

```
Invoke-WebRequest -OutFile $env:temp\wireshark_installer.exe #{wireshark_url}
Start-Process $env:temp\wireshark_installer.exe /S
```

Description: npcap must be installed.

**Check Prereq Commands:** 

```
if (test-path "#{npcap_path}") {exit 0} else {exit 1}
```

#### **Get Prereq Commands:**

```
Invoke-WebRequest -OutFile $env:temp\npcap_installer.exe #{npcap_url}
Start-Process $env:temp\npcap_installer.exe
```

### **Atomic Test #4 - Windows Internal Packet Capture**

Uses the built-in Windows packet capture After execution you should find a file named trace.etl and trace.cab in the temp directory

Supported Platforms: Windows

auto\_generated\_guid: b5656f67-d67f-4de8-8e62-b5581630f528

Attack Commands: Run with command\_prompt! Elevation Required (e.g. root or admin)

```
netsh trace start capture=yes tracefile=%temp%\trace.etl maxsize=10
```

#### **Cleanup Commands:**

```
netsh trace stop >nul 2>&1
TIMEOUT /T 5 >nul 2>&1
del %temp%\trace.etl >nul 2>&1
del %temp%\trace.cab >nul 2>&1
```

### Atomic Test #5 - Windows Internal pktmon capture

Will start a packet capture and store log file as t1040.etl. <a href="https://lolbas-project.github.io/lolbas/Binaries/Pktmon/">https://lolbas-project.github.io/lolbas/Binaries/Pktmon/</a>

Supported Platforms: Windows

auto\_generated\_guid: c67ba807-f48b-446e-b955-e4928cd1bf91

Attack Commands: Run with command\_prompt! Elevation Required (e.g. root or admin)

```
pktmon.exe start --etw -f %TEMP%\t1040.et1

TIMEOUT /T 5 >nul 2>&1
pktmon.exe stop
```

#### **Cleanup Commands:**

| del %TEMP%\t1040.etl |  | Q |
|----------------------|--|---|
|----------------------|--|---|

### Atomic Test #6 - Windows Internal pktmon set filter

Select Desired ports for packet capture <a href="https://lolbas-project.github.io/lolbas/Binaries/Pktmon/">https://lolbas-project.github.io/lolbas/Binaries/Pktmon/</a>

Supported Platforms: Windows

auto\_generated\_guid: 855fb8b4-b8ab-4785-ae77-09f5df7bff55

Attack Commands: Run with command\_prompt! Elevation Required (e.g. root or admin)

```
pktmon.exe filter add -p 445
```

#### **Cleanup Commands:**

```
pktmon filter remove
```