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| Traffic analyzer |
| Sanity Test Suite |



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Table of Contents

[Sanity Test Suite 1](#_Toc124425893)

[1. Functional Tests 3](#_Toc124425894)

[**Test 1 Traffic analysis over 1 minute** 3](#_Toc124425895)

[**Test 2 Checking format of network traffic** 3](#_Toc124425896)

[**Test 3 Traffic analysis over 2 minutes** 4](#_Toc124425897)

[**Test 4 Rebooting during sniffing process** 4](#_Toc124425898)

[2. Operational Tests 5](#_Toc124425899)

[**Test 5 Interrupting the system update** 5](#_Toc124425900)

[**Test 6 Start and stop processes logging** 6](#_Toc124425901)

[**Test 7 Transferring the .pcap file to the server** 6](#_Toc124425902)

[**Test 8 Retrieve the software version by command** 7](#_Toc124425903)

[3. Non-Functional Tests 7](#_Toc124425904)

[**Test 9 Capturing traffic load 50 Mb/s** 7](#_Toc124425905)

[**Test 10 Capturing traffic load 100 Mb/s** 8](#_Toc124425906)

[**Test 11 Recovering data after reboot** 8](#_Toc124425907)

## Functional Tests

### **Test 1 Traffic analysis over 1 minute**

**ID:** FU-1

**Priority:** 2

**Test objective:** monitor if the network traffic is captured during 1 minute

**Setup Description:** download script to the device, give permissions on executing it, connect device via the ethernet cable to the network.

**Requirements**: device should be connected to network that has traffic, user should have permission to run the script.

|  |  |  |
| --- | --- | --- |
|  | **Steps** | **Expected result** |
| 1. | Run the script manually. | Script is running. |
| 2. | Wait 1 minute. | Script captured network traffic. |
| 3. | Wait a bit more | Script have been still capturing the network traffic |

### **Test 2 Checking format of network traffic**

**ID:** FU-2

**Priority:** 1

**Test objective:** network traffic is at .pcap mode.

**Setup Description:** download script to the device, give the permissions of executing it, connect device by the ethernet cable to the network.

**Requirements**: device should be connected to network that has traffic, user should have permission to run the script.

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|  | **Steps** | **Expected result** |
| 1. | Run the script manually. | Script is running. |
| 2. | Wait until script capture the network traffic | Script captured network traffic. |
| 3. | Check the format of captured traffic | Traffic has .pcap format. |

### **Test 3 Traffic analysis over 2 minutes**

**ID:** FU-3

**Priority:** 2

**Test objective:** users can`t capture network traffic over 2 minutes.

**Setup Description:** download script to the device, give the permissions of executing it, connect device by the ethernet cable to the network.

**Requirements**: device should be connected to network that has traffic, user should have permission to run the script.

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| --- | --- | --- |
|  | **Steps** | **Expected result** |
| 1. | Run the script manually. | Script is running. |
| 2. | Wait 1 minute. | Script captured network traffic. |
| 3. | Wait 1 more minute | Script stopped capturing network traffic |

### **Test 4 Rebooting during sniffing process**

**ID:** FU-4

**Priority:** 3

**Test objective:** all the data loses after reboot.

**Setup Description:** download script to the device, give the permissions of executing it, connect device by the ethernet cable to the server.

**Requirements**: device should be connected by the ethernet connection to the server, user should have permission to run the script, network data should be obtained via TFTP protocol.

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|  | **Steps** | **Expected result** |
| 1. | Run the script | Script is running. |
| 2. | Wait until data will be collected | Script captured network traffic. |
| 3. | Reboot device | Data is lost |

## Operational Tests

### **Test 5 Interrupting the system update**

**ID:** OR-1

**Priority:** 1

**Test objective:** checking to restore the system software from SDcard after the system update process is interrupted

**Setup Description:** device with the ethernet connection to the server, eMMC and SDcard software updates must be able to perform via tftpboot to eMMC. If process will be interrupted system should be able to recover from SDcard

**Requirements**: device with the ethernet connection to the server, eMMC and SDcard

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|  | **Steps** | **Expected result** |
| 1. | Starting a software update via tftpboot to eMMC | Software update via tftpboot on the eMMC started successfully |
| 2. | Interrupting the system update process | The system software update was interrupted |
| 3. | System recovery from SDcard | The system software was successfully restored from SDcard |

### **Test 6 Start and stop processes logging**

**ID:** OR-1

**Priority:** 2

**Test objective:** check whether the start and stop sniffing processes are reflected in the serial log.

**Setup Description:** Following item should be reflected in the serial log:

● start and stop sniffing process

● .pcap file is successfully transferred to the server

**Requirements**: device with ethernet connection to the server

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|  | **Steps** | **Expected result** |
| 1. | Start sniffing process | The sniffing process has started successfully |
| 2. | Check the serial log | The start of the sniffing process can be seen in the serial log |
| 3. | Stop sniffing process | Sniffing process stopped |
| 4. | Check the serial log | Stopping the sniffing process is visible in the serial log |

### **Test 7 Transferring the .pcap file to the server**

**ID:** OR-2

**Priority:** 2

**Test objective:** check that the .pcap file was transferred to the server in the serial log

**Setup Description:** Following item should be reflected in the serial log:

● start and stop sniffing process

● .pcap file is successfully transferred to the server

**Requirements**: device with ethernet connection to the server

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|  | **Steps** | **Expected result** |
| 1. | Start and stop sniffing process | Sniffing process is started and finished |
| 2. | Check the serial log | The serial log shows information about starting and stopping the sniffing process |
| 3. | Transfer .pcap file to the server | File. pcap is successfully transferred to the server |
| 4. | Re-check the serial log | The serial log shows that the .pcap file was successfully transferred to the server |

### **Test 8 Retrieve the software version by command**

**ID:** OR-2

**Priority:** 2

**Test objective:** check if the software version can be retrieved by command

**Setup Description:** version of software should be able to retrieve by command

**Requirements**: device with ethernet connection to the server

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|  | **Steps** | **Expected result** |
| 1. | Enter a command to retrieve the software | The software is successfully retrieved by command |
| 2. | Check the software version by command | The current software version is installed |

## Non-Functional Tests

### **Test 9 Capturing traffic load 50 Mb/s**

**ID:** NFP-1

**Priority:** 2

**Test objective:** device successfully captured data.

**Setup Description:** download script, prepare traffic load.

**Requirements**: traffic load at least 50 Mb/s, device connected to the network.

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|  | **Steps** | **Expected result** |
| 1. | Run the script manually. | Script is running. |
| 2. | Wait 1 minute. | Script captured all the network traffic successfully. |

### **Test 10 Capturing traffic load 100 Mb/s**

**ID:** NFP-2

**Priority:** 3

**Test objective:** device successfully captured data

**Setup Description:** download script, prepare traffic load.

**Requirements**: traffic load at least 100 Mb/s, device connected to the network.

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|  | **Steps** | **Expected result** |
| 1. | Run the script manually. | Script is running. |
| 2. | Wait 1 minute. | Script captured network traffic successfully. |

### **Test 11 Recovering data after reboot**

**ID:** NFP-2

**Priority:** 1

**Test objective:** after rebooting the device all the data was saved.

**Setup Description:** download script to the device, give the permissions of executing it, connect device by the ethernet cable to the network.

**Requirements**: device should be connected to network that has traffic, user should have permission to run the script.

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|  | **Steps** | **Expected result** |
| 1. | Run the script | Script is running. |
| 2. | Wait until data captured | Some data was captured. |
| 3. | Reboot the device by power off. | Device is off |
| 4. | Power on the device. | Device is on, all of the captured data was saved before. |