Technical Guide

Framed-IP-Address Feature
Table of Contents

Revision ................................................................................................................................. 2
Introduction ............................................................................................................................ 3
Flow Diagram ........................................................................................................................ 4
Configuration ......................................................................................................................... 6
## Revision

<table>
<thead>
<tr>
<th>Firmware version</th>
<th>Supported Model</th>
<th>Date</th>
<th>Author</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>V12.4.0-971</td>
<td>EAP101, EAP102</td>
<td>29th May 2023</td>
<td>Alex Tan</td>
<td>1st revision</td>
</tr>
</tbody>
</table>
**Introduction**

This feature is an enhancement to the RADIUS accounting functionality. It is ONLY supported on EAP101, EAP102 with firmware version V12.4.0-971 or later. Any firmware version prior to V12.4.0-971 will not contain this feature.

In previous RADIUS accounting implementation, the IP address of a supplicant or client is not included in the Accounting Start Request. This causes the RADIUS server to not able to log the IP address of a supplicant.

This new feature called “Framed-IP-Address” will now include the IP address of the supplicant in the Accounting Start Request packet. The concept is to wait for the DHCP 4-way handshaking process to complete and the IP address of a supplicant can then be obtained. This feature is enabled by default and can be disabled by using CLI command.
Flow Diagram

Original implementation

1. Connection attempt from Client
2. Request Authentication info to Client
3. Authentication info (Username, Password) from Client
4. Access-Request with Authentication info to RADIUS Server
5. Access-Accept from RADIUS server to AP
6. Access-Accept to Client
7. RADIUS accounting START Request with MAC, SSID info, etc.
8. RADIUS accounting Response
9. DHCP discovery / request
10. DHCP offer / ACK
11. Radius accounting Interim update

No client IP address information is added.

New implementation (Enabled)

1. Connection attempt from Client
2. Request Authentication info to Client
3. Authentication info (Username, Password) from Client
4. Access-Request with Authentication info to RADIUS Server
5. Access-Accept from RADIUS server to AP with new attribute information: Edgecore-No-Wait-Frame-IP
6. Access-Accept to Client
7. DHCP discovery / request
8. DHCP offer / ACK
9. RADIUS accounting START Request with MAC, SSID info, client IP address, etc.
10. RADIUS accounting Response
11. Radius accounting Interim update with client IP address

Client IP address information is added.
New implementation (Disabled)
**Configuration**

**Enabling**
- This feature is enabled by default. No additional configuration is required.

**Disabling**
1. Enable SSH service and login to the device.
2. Create a dictionary file such as “dictionary.zvendor”.
   ```
   dictionary.wisp
   dictionary.xedia
   dictionary.xylan
   dictionary.yubico
   dictionary.zeus
   dictionary.zte
   dictionary.zvendor
   dictionary.zyxel
   ```
3. Edit the dictionary file to the format below.
   ```
<table>
<thead>
<tr>
<th>VENDOR</th>
<th>Edgecore</th>
<th>259</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTRIBUTE</td>
<td>Edgecore-No-Wait-Frame-IP</td>
<td>8</td>
</tr>
</tbody>
</table>
   ```
4. Add the newly created dictionary file to the RADIUS main dictionary file and save.
   ```
   $INCLUDE dictionary.xedia
   $INCLUDE dictionary.xylan
   $INCLUDE dictionary.yubico
   $INCLUDE dictionary.zeus
   $INCLUDE dictionary.zte
   $INCLUDE dictionary.zyxel
   $INCLUDE dictionary.zvendor
   
   #
   # And finally the server internal attributes.
   # These are attributes which NEVER go into a RADIUS packet.
   #
   $INCLUDE dictionary.freeradius.internal
   ```
5. Create an account with the attribute as below.

```

[Code]

```

test Cleartext-Password := "test"

testing Cleartext-Password := "testing"

Edgecore-No-Wait-Frame-IP = 1

Explanation:

1. Using account “test” (Framed-IP-Address enabled):
   - Accounting Start Request packet will not be sent by the AP until Frame-IP-Address obtains client IP address, i.e. client is not able to access the network before the process is finished.

2. Using account “testing” (Framed-IP-Address disabled):
   - Accounting Start Request packet will be sent by the AP even if no client IP address is obtained, i.e. client is able to access the network immediately.