Configurable Framed-MTU on Cisco Catalyst 9800

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Table of Contents

Introduction

This document describes how to configure Framed Maximum Transmission Unit (MTU) size for RADIUS on a 9800 WLC. When sent as part of the RADIUS-REQUEST message, the framed-mtu attribute will control the packet size for the RADIUS-RESPONSE message that is sent from the RADIUS server. The controller uses this to inform the RADIUS server about the CAPWAP MTU between the controller and AP. By default, the 9800 dynamically populates the framed-mtu attribute with the CAPWAP MTU value. However, in cases where the MTU between the controller and the RADIUS server is less than the CAPWAP MTU between the controller and AP, setting the framed-mtu value to match the MTU between the controller and RADIUS server will avoid any packet fragmentation.

Note: For a better reading experience, we recommend that you view this document with your browser window in full-screen mode.

Note: The documentation set for this product strives to use bias-free language. For purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. Exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on RFP documentation, or language that is used by a referenced third-party product.

Prerequisites

Cisco recommends that you have knowledge of these topics:

- Catalyst Wireless 9800 configuration model
- AAA and RADIUS concepts

Components Used

The information in this document is based on these software and hardware versions:

- Catalyst 9800 Wireless Controller Series (Catalyst 9800-CL)
- Cisco IOS®-XE Bengaluru 17.04.01

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, make sure that you understand the potential impact of any command.

Configuration

To configure framed MTU size for RADIUS, you will need to configure:

1. AAA attribute list defining the MTU size
2. Wireless AAA Policy with the AAA attribute list applied
3. Wireless Policy Profile with the Wireless AAA Policy applied.

At the time of writing the document, these configurations can be done via the CLI only.

AAA Attribute List

1. Connect to the CLI of the 9800 using your preferred method, like SSH
2. Create the AAA attribute list with the following commands:

```
9800CL# configure terminal

9800CL(config)# aaa attribute list custom-framed-mtu

9800CL(config-attr-list# attribute type framed-mtu 1300
```

The framed-mtu attribute can be configured with any number between 0 and 4294967294.

- Note: Ensure that the configured framed-mtu value is less than or equal to the CAPWAP MTU. This is because the EAP message received in Access-Challenge message must not exceed the CAPWAP MTU in order to avoid EAP fragmentation.

Wireless AAA Policy

1. For the required Wireless AAA Policy, enter the following commands in the CLI to apply the AAA attribute list defining the framed MTU size

```
9800CL# configure terminal

9800CL(config)# wireless aaa policy FRAMED-MTU

9800CL(config-aaa-policy)#attrlist authentication custom-framed-mtu
```

Wireless Policy Profile

1. For the required Wireless Policy, enter the following commands in the CLI to apply the Wireless AAA Policy

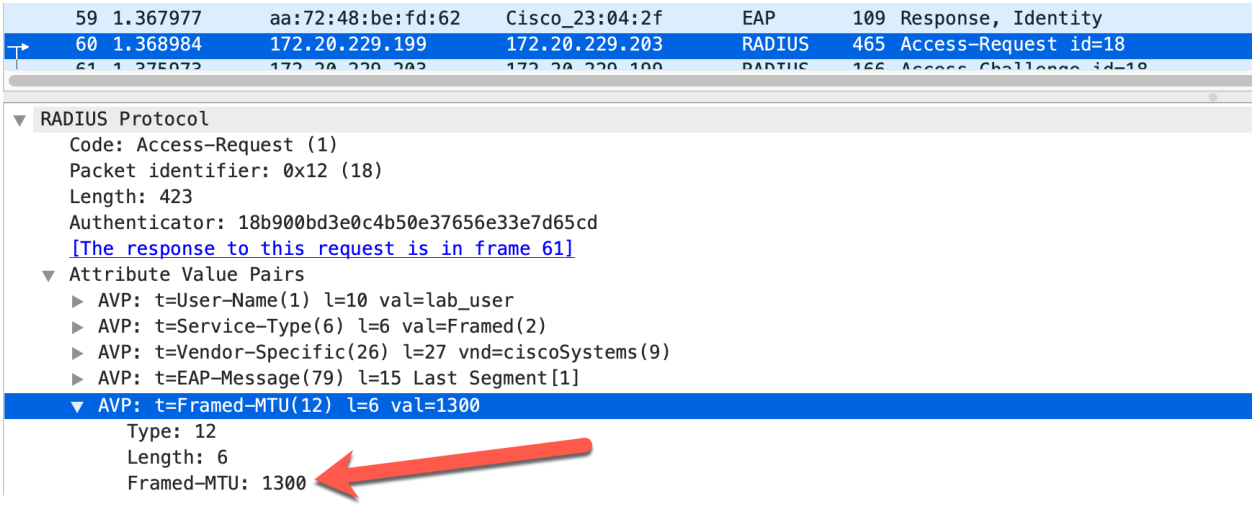
```
9800CL# configure terminal

9800CL(config)# wireless profile policy CUSTOM-MTU

9800CL(config-wireless-policy)# aaa-policy FRAMED-MTU
```

Verify/Troubleshooting

Create a packet capture of a RADIUS request. In the Attribute Value Pairs, verify that the Framed-MTU value matches what was configured.



If it does not match, narrow down what has been applied by running the following commands.

```
show run aaa attribute

show run | sec wireless aaa

show run | sec wireless profile policy
```

The framed-mtu should show the desired MTU size for the deployment.

```
9800CL# show run aaa attribute

!

!

aaa attribute list custom-framed-mtu

 attribute type framed-mtu 1300

!
```

The Wireless AAA Policy should contain the AAA attribute list with the custom framed MTU size.

```
9800CL# show run | sec wireless aaa

wireless aaa policy FRAMED-MTU

 attrlist authentication custom-framed-mtu
```

Verify/Troubleshooting

The Wireless Policy Profile should contain the configured Wireless AAA Policy that contains the custom framed MTU size.

```
9800CL# show run | sec wireless profile policy

… Output is condensed

wireless profile policy CUSTOM-MTU

 aaa-policy FRAMED-MTU


… Output is condensed
```