
Chewie

Chewie Developers

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USER DOCUMENTATION

1.1 Introduction

1.1.1 What is Chewie?

Chewie is an EAPOL/802.1x implementation in Python. It is designed to work on it's own but primarily as a module for [The Faucet Project](#) which is an open-source SDN controller implementation in Python.

Supported Features:

- PEAP
- MD5-SUM
- TLS
- TTLS

1.1.2 Configuration

Setting up credentials with Chewie can be set on the Radius server, if using the default configuration this can be found in the `etc/freeradius/users` file.

The default credentials for the username and password are `user` and `microphone` respectively. Example authentication certificates for TLS / TTLS / PEAP have been provided in the `etc` folder.

NOTE: These are self-signed certificates

1.1.3 Getting Started:

Getting started with Chewie is as easy as starting a docker-compose network. This has been described below. If you would like to learn about the requirements for running Chewie, all of the dependencies for Chewie have been defined in the `Dockerfile.chewie` file, with the `pip` dependencies defined in the `requirements.txt` and `test-requirements.txt` files respectively.

Docker / Docker-Compose:

Setup

If needed, installation instructions for [Docker](#) and [Docker-Compose](#) can be found on the official Docker website or by following the links provided.

Starting a Docker-Compose

To run Chewie in the Docker-Compose Environment:

```
docker-compose up --build
```

To Stop and Clean Up the Docker Environment

```
docker-compose down
```

1.2 Development

1.2.1 Building the Docker Image

For a developer to build and run the Chewie inside a Docker it is easy to pass through the live source-code to the Docker container, allowing for the developer to restart Chewie and code changes to be active on application restart.

To get started working with Chewie, the main image needs to be built before a developer can run it.

```
docker build -t chewie_image -f docker/Dockerfile.chewie .
```

To start the docker image inside a container, mounting the Chewie source code to `/chewie/` the instruction below is provided:

```
docker run -it -v $(pwd)/:/chewie/:ro chewie_image /bin/bash
```

To run Chewie once in the Docker environment: `python3 /chewie/run.py`

1.3 Testing

1.3.1 Running unit-tests in Docker

To build and run the Chewie test-suite inside a Docker:

```
docker build -t chewie_test_image -f docker/Dockerfile.test .          docker run -t  
chewie_test_image
```

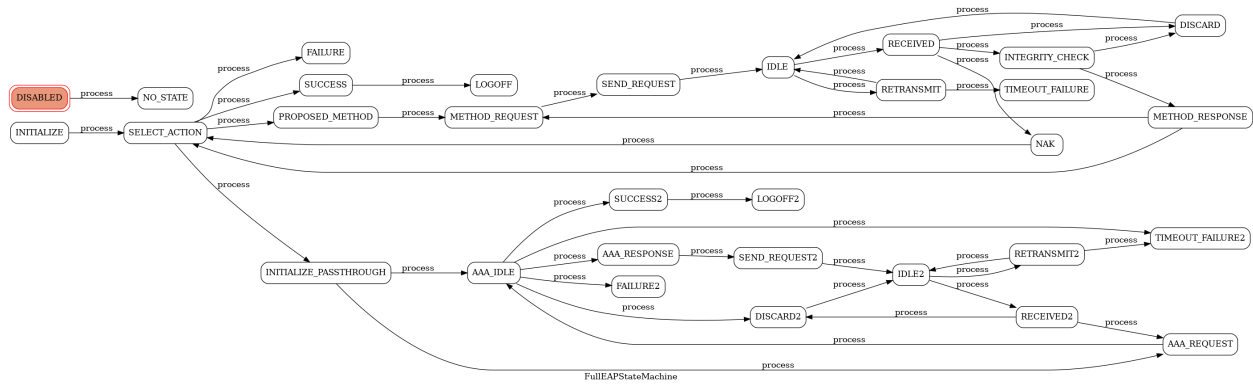
Questions / Bugs

If there are any questions or bugs found please report them to the Chewie project via the issue link. This can be found at <https://github.com/faucetsdn/chewie/issues>

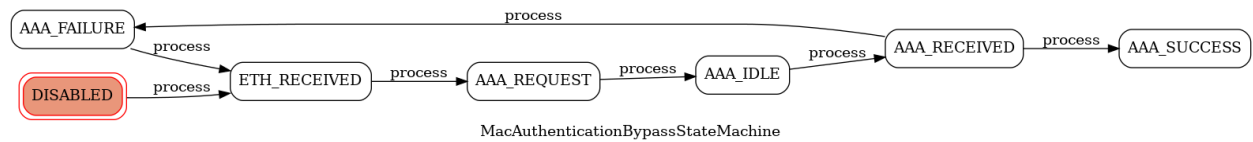
1.4 Architecture

Chewie contains two state machines that host the state of users as they perform authentication.

1.4.1 EAPOL State Machine



1.4.2 Mac Authentication Bypass Machine



INDICES AND TABLES

- `genindex`
- `modindex`
- `search`