Document History

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1.0.0	18/07/2013	First version.	Jesus Fidalgo

Contents

1 Introduction

1.1 Purpose

This document describes what is LATTE.

1.2 Scope

This doc is aimed for all software developers.

1.3 Document Ownership & Maintenance

The SW Diagnostics & Network group of Lear Valls owns & maintains this document.

1.4 Change log

See Document History in page 1.

1.5 Acronyms and Definitions

SW	Software
HW	Hardware
ECU	Electronic Control Unit

1.6 References

2 Overview

LATTE stands for Lear Automated Target Tools Environment. It's basically a set of Python libraries used in a test setup with a Lear ECU connected. The main goal is to be able to communicate with the following devices, commonly used in a setup environment:

- Trace32 debugger
- One or several Vector devices for CAN/LIN communication
- Xantrex power supply

After establishing communication with these devices, the LATTE Python libraries allow to send orders to and read information from these devices. Basically these libraries allows to automate a lot of manual steps that are performed when testing in the real ECU. For example:

- The Trace32 library allows to download code, run it, stop it, read variables, write variables, set and clear breakpoints.
- The Vector library allows to send CAN frames, read CAN frames sent by the Lear ECU, send LIN frames simulating the LIN slaves connected to the Lear ECU, read LIN frames sent by the Lear ECU, send diagnostic requests over CAN to the Lear ECU and read its response. **And very important, the Vector devices can be NO LICENSE.**
- The Xantrex library allows to read the power supply voltage, modify it, read the current consumption.

Additionally there's a report library to allow reporting the tests performed. The user can develop a Python script using these libraries to perform any kind of target test (integration test, unit test, requirements test). The use decides which of these libraries to use (if desired, they can be used together).

Why Python language? Because:

- It's free.
- It allows to run a script without the need of a compiler. This makes modification of a script and execution very simple and fast.
- Easy to learn, very high level language.

3 Using LATTE

The following tools needs to be installed in the setup PC:

- Python 2.6.X or 2.7.X 32bits version.
- A Python editor. Recommended PyScripter, the latest 32bits version available.

The following tools needs to be installed/present in your PC:

- Python 2.6.X or 2.7.X 32bits version.
- A Python editor. Recommended PyScripter, the latest 32bits version available.
- The LATTE libraries are located in your personal PC, in the SVN SW project. Your Python script using the LATTE libraries must be also located in the SVN project.

How to work:

- Always work with a network mapped drive, the same in your PC and in the setup PC.
- Run the test scripts always on the setup PC. In this way, the script is located in your personal PC but it runs in the setup PC. The generated reports or any other file will be generated on your personal PC. So there's no file generated in the setup PC, and it's not necessary to move or copy any file from your personal PC to the setup PC or vice-versa.

Useful advices:

- Please read the manuals for the libraries. The manuals are located in folders 'doc' inside each library.
- Please look at the examples located in the folders 'example' inside each library.
- All LATTE libraries have a description and example of every public method. Please have a look at com.py, can.py, lin.py, t32api.py, etc always when you have some doubt.