D6.5

Open Source Tool
for Visualization and Editing of Trust Policies

Document Identification	
Date	28.02.2019
Status	Final
Version	Version 1.1

Related WP	WP 6, 8, 9	**Related Deliverable(s)**	D6.1, D6.6, D6.2, D6.3
Lead Authors	TUG	**Dissemination Level**	PU
Lead Participants		**Contributors**	TUG, USTUTT, FHG
Reviewers	Ubisecure, UPRC		

1.   Executive Summary

This document describes how to obtain, build, and maintain the open source libraries for the trust policy editor. It describes the procedures to compile and run the software tool.

2. Document Information

2.1 Contributors

Name	Partner
Lukas Alber	TUG
Stephanie Weinhardt	USTUTT, FHG
Olamide Omolola	TUG

2.2 History

Version	Date	Author	Changes
0.1	11/02/2019	Stefan More	Initial Version
1.0	12/02/2019	Stefan More, Lukas Alber	Updated information
1.1	28/02/2019	Olamide Omolola	Made review changes

3.   Table of Contents

4.   Table of Acronyms

TPL – Trust Policy Language

5.   Introduction

The Trust Policy Editor, also called Trust Policy Authoring Tool, is a GUI component used to create and edit trust policies. Those trust policies are then used by the ATV component (D6.6).

The editor supports editing of trust policies in three different abstraction levels: the TPL programming language, introduced by LIGHTest; the natural language layer; and a graphical language layer.

The graphical layer is the easiest option to create a trust policy. The user has the possibility to choose trusted trust schemes. The tool will automatically generate TPL code from the users input.

The natural layer also simplifies the creation of trust policies, but offers possibilities that are more extensive. It consists of drag and drop blocks that can be concatenated to a rule. The rules are then translated to TPL.

For the pure TPL layer the user formulates a policy using the TPL language and is supported by the editor tool with linting.

6.   Components

6.1 Technical Infrastructure

The details of the technical infrastructure can be found in D8.1 [1]. This deliverable describes the technical infrastructure for source code hosting as well as automated deployment methods. We use GIT as source code repository and Nexus to manage our software artefacts.

GIT [2] is a version control system for tracking changes in computer files and coordinating work on those files among multiple people. It is primarily used for source code management in software development, but it can be used to keep track of changes in any set of files.

Sonatype Nexus [3] is a repository manager. It allows developers to proxy, collect, and manage dependencies, and facilitates the distribution of software.

6.2 Obtaining the Source Code

The source code can be obtained from GitLab using the following command:

git clone git@extgit.iaik.tugraz.at:LIGHTest/TrustPolicyAuthoringTool.git

6.3 Getting the right Revision

The development for the current version takes place in the branch 'master. The branch can be changed via the command

git checkout master

to get the sources of that particular branch.

6.4 Building the Source Code

The project is written in version 1.8 of the Java programming language and uses several open source libraries (a detailed list is given in the project's *pom.xml*).

The project uses Maven as build system and can be built and tested using the command

mvn verify

To only build the project, use the command

mvn build

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The Maven commands generate JAR files that can be executed directly. As an alternative to building the source code on the command line, you can also use your favourite IDE.

Since Maven is also taking care of dependencies, to build the editor component, you need to setup access to several GitLab maven repositories first. This can be done by creating a *personal access token* in GitLab and adding it to your maven *config.xml*.

6.5 Running the editor GUI

The GUI can be executed by running the following command on the command line inside *target/classes*:

```
java eu.lightest.TPAT.mvc.view.MainView
```

7.   References

[1] The LIGHTest Project, „Technical Infrastructure for Development and Testing," 2018.

[2] GIT, „Getting Started - Git Basics," [Online]. Available: https://git-scm.com/book/en/v2/Getting-Started-Git-Basics. [Zugriff am 15 February 2019].

[3] Sonatype, „Sonatype Nexus Repository," Sonatype, [Online]. Available: https://www.sonatype.com/nexus-repository-sonatype. [Zugriff am 28 February 2019].

8. Project Description

LIGHTest project to build a global trust infrastructure that enables electronic transactions in a wide variety of applications

An ever increasing number of transactions are conducted virtually over the Internet. How can you be sure that the person making the transaction is who they say they are? The EU-funded project LIGHTest addresses this issue by creating a global trust infrastructure. It will provide a solution that allows one to distinguish legitimate identities from frauds. This is key in being able to bring an efficiency of electronic transactions to a wide application field ranging from simple verification of electronic signatures, over eProcurement, eJustice, eHealth, and law enforcement, up to the verification of trust in sensors and devices in the Internet of Things.

Traditionally, we often knew our business partners personally, which meant that impersonation and fraud were uncommon. Whether regarding the single European market place or on a Global scale, there is an increasing amount of electronic transactions that are becoming a part of peoples everyday lives, where decisions on establishing who is on the other end of the transaction is important. Clearly, it is necessary to have assistance from authorities to certify trustworthy electronic identities. This has already been done. For example, the EC and Member States have legally binding electronic signatures. But how can we query such authorities in a secure manner? With the current lack of a worldwide standard for publishing and querying trust information, this would be a prohibitively complex leading to verifiers having to deal with a high number of formats and protocols.

The EU-funded LIGHTest project attempts to solve this problem by building a global trust infrastructure where arbitrary authorities can publish their trust information. Setting up a global infrastructure is an ambitious objective; however, given the already existing infrastructure, organization, governance and security standards of the Internet Domain Name System, it is with confidence that this is possible. The EC and Member States can use this to publish lists of qualified trust services, as business registrars and authorities can in health, law enforcement and justice. In the private sector, this can be used to establish trust in inter-banking, international trade, shipping, business reputation and credit rating. Companies, administrations, and citizens can then use LIGHTest open source software to easily query this trust information to verify trust in simple signed documents or multi-faceted complex transactions.

The three-year LIGHTest project starts on September 1st and has an estimated cost of almost 9 Million Euros. It is partially funded by the European Union's Horizon 2020 research and innovation programme under G.A. No. 700321. The LIGHTest consortium consists of 14 partners from 9 European countries and is coordinated by Fraunhofer-Gesellschaft. To reach out beyond Europe, LIGHTest attempts to build up a global community based on international standards and open source software.

The partners are A ATOS (ES), Time Lex (BE), Technische Universität Graz (AT), EEMA (BE), G+D (DE), Danmarks tekniske Universitet (DK), TUBITAK (TR), Universität Stuttgart (DE), Open Identity Exchange (GB), NLNet Labs (NL), CORREOS (ES), Ubisecure (FI) and University of Piraeus Research Center (GR). The Fraunhofer IAO provides the vision and architecture for the project and is responsible for both, its management and the technical coordination.

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