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Ecoefficiency Tool Installation Guide

Activity 4: Basic Service Operation

WP 4.2: Cloud Runtime Optimization

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PU	Public	X
PP	Restricted to other programme participants (including the Commission)	
RE	Restricted to a group specified by the consortium (including the Commission)	
CO	Confidential, only for members of the consortium (including the Commission)	



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Table of Contents

1	INTRODUCTION	6
1.1	GLOSSARY OF ACRONYMS.....	6
2	ECOEFFICIENCY TOOL INSTALLATION GUIDE.....	7
2.1	RELEASE INFORMATION	7
2.2	MINIMAL SYSTEM REQUIREMENTS	7
2.3	PLATFORMS SUPPORTED	7
2.4	SOFTWARE PRE-REQUISITES AND DEPENDENCIES.....	7
2.5	INSTALLATION INSTRUCTIONS	8
2.6	GETTING STARTED	9
2.6.1	<i>Using the Software</i>	9
2.6.2	<i>Testing the Software</i>	9
2.6.3	<i>Configuration</i>	9
2.7	FAQ	10
3	REFERENCES	11

Index of Tables

Table 1 Ecoefficiency Tool release information	7
Table 2 Software dependencies	8



1 Introduction

This document includes the installation guide for the software component Ecoefficiency Tool.

Section 2 of this document includes information about the current release of this component, its minimal system requirements and platforms supported as well as its software and dependency requirements. Moreover, Section 2 details the required steps to install it in the system and test it. Further references can be found in Section 3.

1.1 Glossary of Acronyms

Acronym	Definition
D	Deliverable
GPL	General Public License
IP	Infrastructure Provider
JDK	Java Development Kit
REST	REpresantional State Transfer
SP	Service Provider
WAR	Web Application Archive
WP	Work Package

Table 1 - Acronyms table

2 Ecoefficiency Tool Installation Guide

2.1 Release information

Component Name	Release Number	Release Date
Ecoefficiency Tool	3.0	2013-03-30

Table 2 - Ecoefficiency Tool release information

2.2 Minimal System Requirements

Linux operating systems that support Java JDK 1.6 or greater.

2.3 Platforms Supported

This component has been tested to run on a Linux CentOS release 5.6 with kernel 2.6.18-194.32.1.el5.centos.plusxen with Java JDK 1.6.

2.4 Software Pre-requisites and Dependencies

Product	Version	Licence
service-manifest-api (OPTIMIS component)	1.0.8	GNU Lesser General Public License
CloudOptimizerRESTClient (OPTIMIS component)	1.0-SNAPSHOT	GNU Lesser General Public License
MonitoringInfrastructureRESTClient (OPTIMIS component)	0.0.2-SNAPSHOT	GNU Lesser General Public License
MonitoringInfrastructureMonitoringResource (OPTIMIS component)	0.0.1-SNAPSHOT	GNU Lesser General Public License
ServiceManagerRESTClient (OPTIMIS component)	0.6-SNAPSHOT	GNU Lesser General Public License
CloudBrokerClient (OPTIMIS component)	1.0-SNAPSHOT	GNU Lesser General Public License
TRECommonDBIP (OPTIMIS component)	3.0-SNAPSHOT	GNU Lesser General Public License
TRECommonDBSP (OPTIMIS component)	3.0-SNAPSHOT	GNU Lesser General Public License
servlet-api	2.5	Apache License



		Version 2.0
junit	3.8.1	Common Public License Version 1.0
Java	1.6	GPL
jersey-server	1.6	GPL
jersey-client	1.6	GPL
jersey-core	1.6	GPL
JAXB API	2.1	GPL
Apache Tomcat	6.0.32 or higher	Apache License Version 2
log4j	1.2.17	Apache License Version 2.0
Apache commons-configuration	1.9	Apache License Version 2.0
Apache commons-collections	3.2	Apache License Version 2.0
EMOTIVE Commons	1.0-SNAPSHOT	GNU Lesser General Public License 2.1
EMOTIVE OVFWrapper	2.2.8	GNU Lesser General Public License 2.1

Table 3 - Software dependencies

The aforementioned software dependencies are already included in the pre-compiled WAR files, which can be obtained as detailed in Section 2.5.

2.5 Installation Instructions

The Eco-Efficiency Assessment Tool component is distributed as a web application encapsulated in a WAR file. The only installation step needed is to deploy such file in an application server (e.g. Apache Tomcat). As commented in the next section, the configuration files needed by the software will be generated when the WAR file is deployed in the application server, containing example values as well as explanations which will help the user through the configuration process. See the next section for further details.

Note that the Eco-Efficiency Assessment Tool provides its functionality both for Service Providers (SPs) and Infrastructure Providers (IPs). For each provider type, a different WAR file must be deployed.

For the Eco-Efficiency Assessment Tool for Infrastructure Providers, the WAR file can be obtained from (version 3.0-SNAPSHOT):

<http://optimis-artifactory.atosorigin.es/artifactory/libs-snapshot-local/eu/optimis/EcoEfficiencyToolRESTIP/3.0-SNAPSHOT/EcoEfficiencyToolRESTIP-3.0-SNAPSHOT.war>

While for the Eco-Efficiency Assessment Tool for Service Providers, the WAR file can be obtained from (version 3.0-SNAPSHOT):

<http://optimis-artifactory.atosorigin.es/artifactory/libs-snapshot-local/eu/optimis/EcoEfficiencyToolRESTSP/3.0-SNAPSHOT/EcoEfficiencyToolRESTSP-3.0-SNAPSHOT.war>

Note that you should rename the downloaded WAR files to “EcoEfficiencyTool.war” (both for IP and SP providers) before deploying them to the application server.

2.6 Getting started

2.6.1 Using the Software

See the User Guide.

2.6.2 Testing the Software

See the User Guide.

2.6.3 Configuration

The Ecoefficiency Tool comes with several configuration files, which can be found at `$(OPTIMIS_HOME)/etc/EcoEfficiencyToolIP` for IP providers and `$(OPTIMIS_HOME)/etc/EcoEfficiencyToolSP` for SP providers. Normally, `$(OPTIMIS_HOME)` is set to `/opt/optimis`. A short description of the files for each provider type is provided below. Each option is described in detail in each configuration file. Both in IP and SP providers, the general configuration file for the provider, which both versions of the Ecoefficiency Tool uses, is placed under `$(OPTIMIS_HOME)/etc/optimis.properties`. Note that these files are generated automatically when the `EcoEfficiencyTool.war` file is deployed in the application server, containing example values as well as explanations for each of the fields.

IP PROVIDERS

- `config.properties`: this file specifies the PUE of the datacenter, the minimum and maximum power consumption of each node, the maximum performance of each node (typically in MWIPS, measured using Unixbench [3]) and the different certifications the provider has.
- `energycredits.properties`: specifies the “European Union Emission Trading Scheme” and the “Renewable Emission Certificates” remaining energy credits. Newly acquired certificates can be added here.

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- `log4jECO.properties`: includes the log4j (see Table 1) configuration file for the Ecoefficiency Tool.

SP PROVIDERS

- `config.properties`: provides the necessary details to connect with the IP-side of the Ecoefficiency tool, as well as details to connect to the IPRegistry.
- `log4jECO.properties`: includes the log4j (see Table 1) configuration file for the Ecoefficiency Tool.

2.7 FAQ

N/A

3 References

- [1] Ecoefficiency Tool User Guide, Deliverable of OPTIMIS project.
- [2] Self-managed Cloud Runtime Detailed Design, Deliverable ID4.2.1 of OPTIMIS project.
- [3] UnixBench web site: <http://code.google.com/p/byte-unixbench/>