

CareCom CCD - epSOS TSAM Synchronizer

Implementation documentation

Jakub N. Iwanczuk // CareCom
Denmark, Wednesday, November 24, 2010

1 Component Overview

The primary function of the TSAM Synchronizer is to establish connections between different data repositories and other components which are:

The master repository

The local repositories (LTR)

epSOS Configuration Manager Common Component

epSOS AuditManager Common Component

The communication to the master repository will be done via web services where each relevant entity has a corresponding web service.

An ORM layer is used to represent the LTR as the database software of the local repositories may vary.

The TSAM Synchronizer will communicate with the Audit Manager to ensure all relevant events are registered.

2 Setup the runtime libraries

You need the following dependencies to run the TSAM Synchronizer.

Jar name	URL	Description
antlr-2.7.6.jar	http://www.antlr.org/	ANother Tool for Language Recognition
commons-collections-3.1.jar	http://commons.apache.org/collections/	Commons Collections
dom4j-1.6.1.jar	http://sourceforge.net/projects/dom4j/files/	Java library for working with XML, XPath, and XSLT
ejb3-persistence-	http://repository.jboss.org/	Hibernate Persistence

1.0.2.GA.jar	maven2.org/hibernate/ejb3-persistence/1.0.2.GA/	
hibernate-annotations-3.4.0.GA.jar	http://repository.jboss.org/maven2/org/hibernate/hibernate-annotations/3.4.0.GA/	Hibernate Annotations (JSR-317)
hibernate-commons-annotations-3.1.0.GA.jar	http://repository.jboss.org/maven2/org/hibernate/hibernate-commons-annotations/3.1.0.GA/	Utility project used by annotations based Hibernate sub-projects.
hibernate-core-3.3.2.GA.jar	http://repository.jboss.org/maven2/org/hibernate/hibernate-core/3.3.2.GA/	Core Hibernate Library.
javassist-3.8.0.GA.jar	http://repository.jboss.org/maven2/javassist/javassist/3.8.0.GA/	Java Programming Assistant
joesnmp.jar	http://www.ohloh.net/p/joesnmp	Open source Java SNMP class library.
jta-1.1.jar	http://www.oracle.com/technetwork/java/javaee/tech/jta-138684.html	Java Transaction API (JTA)
log4j.jar	http://logging.apache.org/log4j/1.2/	Java logging library
serializer.jar	http://xalan.apache.org/index.html	Apache Xalan Project
slf4j-api-1.5.8.jar	http://www.slf4j.org/download.html	Simple Logging Facade for Java
slf4j-jdk14-1.5.8.jar	http://www.slf4j.org/download.html	Binding for java.util.logging, also referred to as JDK 1.4 logging
snmpTrapAppender_1_2_9.jar	http://code.google.com/p/log4j-snmp-trap-appender/downloads/list	An appender for log4j that emits logging messages as SNMP traps.
xalan-2.7.1.jar	http://xml.apache.org/xalan-j/	XSLT processor for transforming XML documents into HTML, text, or other XML document types.
xml-apis-1.0.b2.jar	http://mirrors.ibiblio.org/pub	Apache-hosted set of DOM,

	b/mirrors/maven/xml-apis/jars/xml-apis-1.0.b2.jar	SAX, and JAXP interfaces for use in other xml-based projects.
xmlsec-1.4.3.jar	http://mirrors.ibiblio.org/pub/mirrors/maven2/org/apache/santuario/xmlsec/1.4.3/xmlsec-1.4.3.jar	Apache Santuario

3 How to setup the TSAM Synchronizer in the NCP

Prerequisites:

Minimum requirements: Sun Java 6

Verify that execution of 'java -version ' is successful.

All configuration files can be found in 'config/unix' or 'config/windows'. Use the appropriate folder that matches your OS environment.

Deployment Procedure:

1. If the resource: "tsam-synchronizer-1.0-assembly.zip" is unavailable, consult the build_setup.txt.
2. Copy the "tsam-synchronizer-1.0-assembly.zip" to a desired location. (usually the server where the synchronizer will be running from)
3. Unzip "tsam-synchronizer-1.0-assembly.zip" into a desired folder (all subsequent setup is confined to the desired folder and subfolders).
4. Configure access info to the LTR . See the file "hibernate.cfg.xml" for setup (in the example provided in the file we configure access to a MySQL Database) . Focus on the properties:
 - o hibernate.connection.username
 - o hibernate.connection.password
 - o hibernate.dialect
 - o hibernate.connection.driver_class
 - o hibernate.connection.url
5. Configure the JDBC Connector (related info: <http://community.jboss.org/wiki/SupportedDatabases> & <http://trails.codehaus.org/DatabaseConfigurations>) . Create a symlink or copy the JDBC connector to lib/jdbc-connector.jar (example: mysql-connector-java-5.1.10.jar)

- copy and rename to lib/jdbc-connector.jar) . This will ensure that TSAM Synchronizer can resolve the JDBC Connector dependency at runtime.
6. configure access to eCRTS webservice see the file "setting.properties" focus on on the properties:
 - webservice.url
 - webservice.user
 - webservice.password
 - sync.countrycode
 7. If running with AuditManager as enabled following environment variable must be exported:
UNIX:
 export EPSOS_PROPS_PATH=<dir>

WINDOWS:
 set EPSOS_PROPS_PATH=<dir>
 8. To start tsam-synchronizer run (no linebreaks):
UNIX:
 java
 -Ddk.carecom.cts2.sync.hibernatefile=config/unix/hibernate.cfg.xml -Dlog4j.configuration=config/unix/log4j.xml
 -Djava.util.logging.config.file=config/unix/logging.properties
 -Ddk.carecom.cts2.sync.settingfile=config/unix/settings.properties -jar tsam-synchronizer-1.0.jar

WINDOWS:
 java
 -Ddk.carecom.cts2.sync.hibernatefile=config/windows/hibernate.cfg.xml -Dlog4j.configuration=config/windows/log4j.xml
 -Djava.util.logging.config.file=config/windows/logging.properties
 -Ddk.carecom.cts2.sync.settingfile=config/windows/settings.properties -jar tsam-synchronizer-1.0.jar
 9. Default behaviour locates the log in:
 "TSAM.Synchronizer0.log" . If desired logging setup can be manipulated through "config/log4j.xml" and "config/logging.properties"

4 Interaction with the CC epSOS Configuration Manager

The TSAM Synchronizer communicates with the Configuration Manager. The configuration manager is used to hold last synchronization date, that is needed when calculating the delta for a subsequent synchronizations.

The specs for the Configuration Manager used are the available specs on PP in the folder:

<https://service.projectplace.com/pp/pp.cgi/r499890943>

5 Interaction with the epSOS Central Reference Terminology Server (eCRTS)

The TSAM Synchronizer communicates with the eCRTS by a web service provided by CareCom A/S.

6 Interaction with the CC epSOS Audit Manager

The TSAM Synchronizer communicates with the AuditManager.

Following information is logged to the AuditManager:

1. Start and end of synchronization.
2. Which web method is called.
3. The number of which entities is written to the LTR.
4. Occurrence of unrecoverable errors.

The AuditManager can be disabled in the settings.properties file.

In the default distribution the AuditManager is disabled.

Information on how it can be enabled can be found in the example settings.properties file. As to specific AuditManager we refer to the documentation for the AuditManager.

The specs for the Audit Manager used are the available specs on PP in the folder:

<https://service.projectplace.com/pp/pp.cgi/r499312679>