Light RP
Embedded Light RP

Introduction

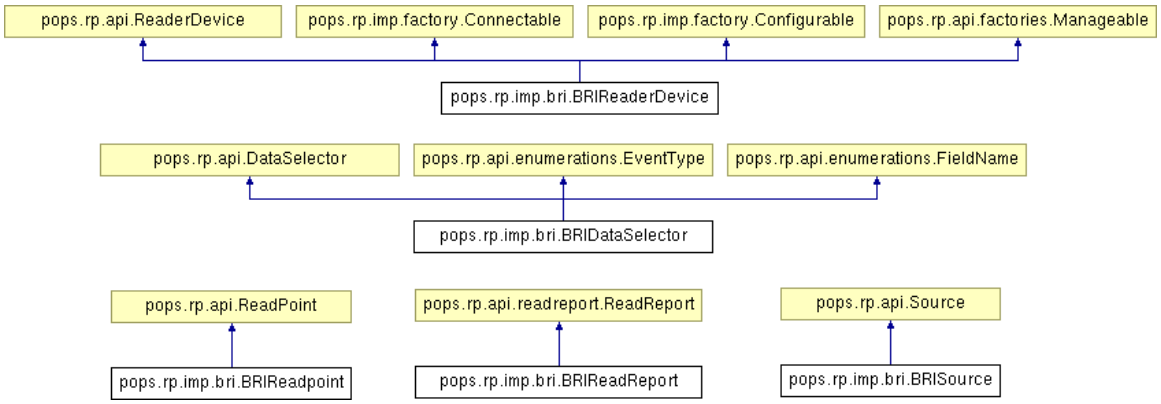
This section describes the Embedded light RP developed by the POPS team, Inria-Lille. This software can be easily implemented in mobile terminals such like PDA to interact with RFID Reader devices.

The implementation is divided into two subsets : RP API definition and core implementation for CAEN and BRI readers.

The targeted RP architecture is the following :

- One Reader Device : singleton representing the RFID reader device.
- One Source : representing the PDA as a mobile source for reading tags.
- One Read Point : representing the unique ANTENNA of each PDA.
- One Data Selector : the default one, with EPCID field selection only.
- No Tag Selector : The filtering is done by software at upper levels.
- No Notification Channel : The inventory is done synchronously with a specified time-out per read cycle.
- No triggers : the only Read Trigger is implicitly fired when calling the method Source.rawReadIDs.

The implementation is performed as follows (example for BRI, idem. for CAEN):



Users & Developers Guide

The executable jar file can be found under the repository ReaderProtocol/dist. All the source can be found under the repository ReaderProtocol/src.

Here is an example of Inventory of tags in reader's field:

```
// Reader singleton ReaderDevice myReader =
ReaderFactory.getReader(ReaderFactory.BRI_READER,"BRIReaderDevice");// Reader's default source
and data selector Source mySource; DataSelector myDataSelector;// Establish Connections
ReaderFactory.connectReader(myReader);// Reader's Data Selector : default singleton for
selecting IDs // This is is the default data selector that supports at least the tag ID field //
get Default Data Selector and update it myDataSelector = myReader.getCurrentDataSelector();//
Reader's source : Singleton mySource = myReader.getCurrentSource();// Perform 10 read cycles
for( int i = 0; i < 10 ; i++) { System.out.println("Read Cycle " + i + " at " +
myReader.getTimeTicks() + " ticks"); // Inventory ReadReport myReadReport =
```

```
mySource.rawReadIDs(myDataSelector); if (myReadReport == null) { System.err.println("Error :
mySource.rawReadIDs null report "); } else { // Display read Tags (ids in hexadecimal) String[]
tagIds = myReadReport.getTagIds(mySource.getName()); if (tagIds == null) {
System.err.println("Error : myReadReport.getTagIds null "); } else if (tagIds.length == 0) {
System.out.println("t NO TAGS"); } else { for(int j = 0 ; j < tagIds.length; j++)
System.out.println("tObserved : 0x" + tagIds[j]); } } }// graceful disconnect : equivalent to
ReaderFactory.disconnectReader(myReader); myReader.goodbye();
```

Download

You can download the executable jar file from here. The source can be found here.

Please follow the Users & Developers Guide for your tests.

More details about the complete version of Light ALE (with light RP embedded) can be found here.
Light RP (en)
Creator: xwiki:XWiki.reckeyzhang Date: 2010/06/04 11:03
Last Author: xwiki:XWiki.reckeyzhang Date: 2010/06/14 14:23