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This section describes the bundle for TEMPer sensor

Context

The TEMPer is a USB-to-serial low-cost thermometer. It can be ordered from many websites. One of the cheapest is <http://www.dealextreme.com/details.dx/sku.7003> .

The TEMPerProducer bundle registers one Producer service producing Measurement, Double or String objects (unit is K).

WARNING:

as seen on the Internet, there are two versions of this stick. The current bundle has been tested with the gray version (old one apparently). A blue version exists, with a different data transmission protocol.

Dependencies

This bundle requires :

- OSGi R4 Compendium, available from OBR in Felix Shell
- RXTX, available from Aspire SVN Repository/archive/rfidsuite/rfidsuite/bundles/rxtx/

Build

Sources

- trunk/bundles/sensors/temperproducer/

Device installation Under Windows

1. you must install the USB-to-Serial driver on your host with the CD provided with the USB stick (USB Driver/setup.exe).
2. you may install the demonstration application (CD > TEMPer V8.1/setup.exe) to test the thermometer.
3. inspect the serial COM port from "System Properties > Hardware > Device Management > Ports (COM and LPT) > USB-SERIAL (COMxx)"

Under Linux

1. put the device on a USB port
2. In dmesg, you should see a line like : `usb 7-2: ch341-uart converter now attached to ttyUSB0`
3. In this case, **ttyUSB0** is the serial port to use to read data from the stick.

WARNING:

Reading serial ports through /dev requires root rights.
Some hints to bypass that problem may be given here later.

Then

1. cd trunk/bundles/sensors/temperproducer

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2. configure the serial port in
src/main/java/org/ow2/aspire/rid/sensor/temperproducer/TEMPerProducer.java
3. mvn clean install

Configuration

You must configure the properties for your dongle in the source (currently).
The default values are a COM14 port and a poll each 2 seconds.

See org/ow2/aspire/rid/sensor/temperproducer/TEMPerProducer.java

- Hard coded COM port :
 - Default Value : *String portName = "COM14";*
 - Under Linux, you should use : *String portName = "/dev/ttyUSB0";*
- Poll delay :
 - Default value : *int POLLDELAY = 2000;*

Artifacts

The artifact to deploy is

- org.ow2.aspire/rid:org.ow2.aspire/rid.temperproducer

1. Tests

Under Linux

Tested under Fedora 13 (64 bits), kernel 2.6.33, with included driver

It seems that there is an alternance between a correct value and a constant value.
All the results looked like :

```
529.0875 K 305.15 K 529.0875 K 305.65 K 529.0875 K 308.15 K 529.0875 K
```

Where 305 K is a correct value (around 30°C), and 529.0875 (around 255.9°C) seems to be a control value.

Under Windows

Tested under Windows 7 Professional (32 bits), with the provided driver (on the CD-Rom).

Works fine, no problem found.

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