How to: trng_capture

REVISION HISTORY			
NUMBER	DATE	DESCRIPTION	NAME
1.0	2015-05		K

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Chapter 1

Introduction

trng_caputre is a simple command line program to get random data from Kidekin TRNG. Its command line arguments are fully specified in trng_capture.pdf.

Chapter 2

Preliminary steps

The following steps are needed before attempting any of the other procedures.

1. Unzip the software package in a location where you have write permission
2. Plug in Kidekin TRNG
3. Open a console
4. Change directory to the location of the executables
    a. Windows: application_notes_software\ftdi_d2xx\trng_capture\build_dir
    b. Linux (FTDI proprietary driver): application_notes_software\ftdi_d2xx\trng_capture\build_dir_linux
    c. Linux (libftdi):
        i. application_notes_software\ftdi_d2xx\trng_capture\build_dir_linux2
        ii. sudo apt-get install libftdi1

On Window the executable should run on any system with FTDI driver installed. On Linux, if none of the executables run, you need to rebuild them from source.

BUILDING LINUX EXECUTABLE WITH PROPRIETARY DRIVER

a. Change directory to application_notes_software\ftdi_d2xx\trng_client_server\
b. sudo apt-get install libusb-1.0-0-dev
c. ./build.sh

The FTDI library requires GLIBC 2.2.5. It should be possible to use it on systems with other GLIBC versions but that's fairly involved in beyond the scope of this document. Building with libftdi (open source library) is way easier.

BUILDING LINUX EXECUTABLE WITH LIBFTDI OPEN SOURCE DRIVER

a. Change directory to application_notes_software\ftdi_d2xx\trng_client_server\
b. sudo apt-get install libftdi1
c. ./build.sh

Chapter 3

Basic usage

The easiest way to check that Kidekin TRNG is functional is by running **trng_capture** without any argument.

BASIC USAGE:

1. launch **trng_capture**:
    a. Windows: **trng_capture.exe**
    b. Linux: **sudo ./trng_capture**
2. After 8 seconds, a file "trng_capture_output.dat" should be created in the same directory as **trng_capture**

trng_capture.exe output:

```
C:\ftdi_d2xx\trng_capture\build_dir>trng_capture.exe
FT_ListDevices OK, number of devices connected is in numDevs=2
FT_ListDevices OK
*kidekin_trng A*
FT_ListDevices OK
*kidekin_trng B*
FT_Open OK, use ftHandle to access device 1
FT_SetBaudRate OK
FT_SetFlowControl OK
FT_Purge OK
Reply time is: 7.266s, 2.20204MBits/s (0.275255MBytes/s)

C:\ftdi_d2xx\trng_capture\build_dir>dir

 Directory of C:\ftdi_d2xx\trng_capture\build_dir

05/30/2015  03:34 PM    <DIR>          .
05/30/2015  03:34 PM    <DIR>          ..
05/30/2015  02:29 PM             6,037 kidekin_trng.o
05/30/2015  02:29 PM         1,029,090 trng_capture.exe
05/30/2015  03:34 PM         2,097,152 trng_capture_output.dat
               3 File(s)      3,132,279 bytes
               2 Dir(s)   9,659,314,176 bytes free
```

If you get an error on Windows, please refer to trng_tips_windows.pdf.