Stratasys Raccoon System Testing Guide

Author: Noam Paran (Giga Ltd.)

Rev: 1.0

23-Sep-14

1. Step1 – Source Control (SVN) Operations
   1. Download TortoiseSVN’s latest version from <http://tortoisesvn.net/downloads.html>
   2. Execute the setup file and go through with the installation process.
   3. Create the directory C:\SVN (or any directory where you wish the repository to be created. “.” is your SVN root directory, under which you shall see “trunk”, “branches”, and “tags”).
   4. In Windows Explorer, right click on the C:\SVN directory and click Import.
   5. Enter the repository URL and click “Connect”.
   6. Enter your username and password and wait for the updating process to finish.
2. Step2 – Build projects and solutions

Build for Windows

Supported OS: Windows 7

* 1. There are 3 solutions:

1. Raccoon.sln – The production solution.
2. RaccoonTester.sln – For testing purposes.
   1. Go to .\trunk \Raccoon\ and double click the .sln file you wish to build. For testing purposes we will be using “RaccoonTester.sln”.
   2. For each of the solution we have two configurations: Release and Debug.
   3. From now on, “Release” is taken as default. Everything holds for debug as well.
   4. The build outputs are as follows:
      1. For Raccoon.sln – IDT-Srv.lib (under .\trunk\Raccoon\dist\Raccoon\Win32\Release)
      2. For RaccoonTester.sln – RS-TesterBLApp.exe, log4cplus.dll, tinyxml2.dll, libzmq.dll, and RSTester.dll (under .\trunk\Raccoon\ \dist\RaccoonTester\Win32\Release), TesterUI.exe, RSTesterCLI.dll, and libzmq.dll (under TesterUI.exe – .\trunk\Raccoon\dist\TesterUI)

Note: the configurations above are all 32 bits. 64 bits configurations are not required at this phase.

* 1. When Visual Studio opens, switch the Solution Configuration to “Release”. If the solution configuration is not available in the toolbar, right-click the solution in the Solution Explorer, click “Configuration Manager”, and under “Active solution configuration” switch to “Release”, then click the "Close" button.
  2. Make sure the solution platform is set to Win32. This may be configured in a similar fashion to setting the Solution Configuration in the previous step – through the standard toolbar or by right-clicking the solution in the Solution Explorer and clicking on “Configuration Manager”.
  3. Right-click the solution in the right-side solution viewer and click “Rebuild”.
  4. Wait until the building is complete, verifying (using the output windows at the bottom) that no build errors had occurred.

Build for Linux

Supported environment:

Linux Fedora 18 – Kernel version 3.10.11

Processor - Freescale ARM: i.MX 6 Dual Core Lite Part # MCIMX6U7CVM08AC  
IDE – Eclipse Luna Release 4.4.0 (download and install the version named “Eclipse IDE for C/C++ Developer”)  
Compiler - gcc V4.8.1

Pre-condition before eclipse installation: Verify that you have Java Virtual Machine version 1.7 or above installed on your Linux machine

As in windows build, each Raccoon software package is built and deployed by its own eclipse workspace. Cryptopp, log4cplus, zeroMQ and VaultIC100API libraries have their own makefile; all those libraries except cryptopp shall be configured before build (sh ./configure). After building those libraries the workspace can be built.

Build targets are the same as windows build.

Linux build instructions

1. In order to import the source files into eclipse, follow the instructions in “Step 1 – Source Control (SVN) Operations”.
2. Start Eclipse. Under the File menu, click Import.
3. Choose “Existing project into workspace” and click OK.
4. Browse to your “trunk” directory, under your SVN root directory.

Select all items or click “Select all” and click OK.

1. Step 3 – Running the applications (TesterBL)

* Tester Application
* TesterBL Only (Without UI)
  1. Once the build is finished, go to the .\trunk\Raccoon\dist\RaccoonTester\Win32\Release\Tests directory.
  2. This directory contains all .xml files that will be run upon executing the tester (step #15). In order to customize which xml files will be run upon execution of the tester either move or add files to this directory or use the UI, which allows the user to choose which xml files to run (see “TesterUI” below).
  3. Connect the FCB’s USB cable to the computer and insert as many IDTs as you would like.
  4. In order to run the tester without UI, double-click the RS-TesterBLApp.exe file in the .\trunk\Raccoon\dist\RaccoonTester\Win32\Release directory. This will execute the test utilizing all .xml files in the .\trunk\Raccoon\dist\RaccoonTester\Win32\Release\Tests directory. During the test execution you will be receiving output information in the command window.
  5. After the test is done the test logs may be viewed in .\trunk\Raccoon\dist\RaccoonTester\Win32\Release \Tests\Logs. Every test generates one corresponding test log.
  6. Note that the last line in every test is either “INFO : Test passed” or “ERROR: Test failed”, marking the entire test as success or failure. One failed method is enough to turn the entire test into a failure.
* TesterUI (Optional)

1. In order to run the tester using the UI, open the command window (either press +R on the keyboard or click start menu -> Run. When the “Run” window opens type “cmd” and press Enter).
2. In the command console type “cd .\trunk\Raccoon\dist\RaccoonTester\Win32\Release” and press enter to change the directory you’re viewing.

For using the UI locally, follow steps #3 – #6. For running the UI on a different machine, follow steps #7 - #11.

1. For Local UI: Enter the following line: “RS-TesterBLApp.exe –a \*:5555” and press enter.
2. Double-click .\trunk\Raccoon\dist\TesterUI\RS-TesterUI.exe
3. In the UI window enter “tcp://localhost:5555” and click Connect.
4. Check any tests you want to run (or use the “Select All” and “Deselect All” buttons at the bottom of the window) and click the “Run Tests” button.
5. For Remote UI: Enter the following line: “RS-TesterBLApp.exe –a [ip]:5555” where [ip] is the UI computer’s IP address, and press enter.
6. Copy the entire .\trunk\Raccoon\dist\TesterUI folder to the UI computer.
7. On the UI computer, double-click on the RS-TesterUI.exe file.
8. In the UI window enter the TesterBL machine’s IP and click Connect.
9. Check any tests you want to run (or use the “Select All” and “Deselect All” buttons at the bottom of the window) and click the “Run Tests” button.
10. External Files

Following is a list of all external files needed to run the tester, their descriptions and location:

Test Files – .\trunk\Raccoon\dist\RaccoonTester\Win32\Release\Tests - .xml files containing test scenarios used by the tester.

Key Files .\trunk\Raccoon\dist\RaccoonTester\Win32\Release\Tests\Keys – .key files containing both private and public Stratasys keys used by the tester application.

Logs - .\trunk\Raccoon\dist\RaccoonTester\Win32\Release\Tests\Logs - .log files automatically generated by the tester for each test. The file name is identical to the test xml file name except for the .log extension. Every test ends with a line stating either the test’s success or its failure.

Results – Optional STR (Software Test Results) manually generated by the user after each test cycle, describing the tests run and the results reached, including any relevant information.

1. Burnt Tag Data

Two tags were provided by Giga to Stratasys for testing purposes, containing the following IDC data:

Tag Struct ID: 4983

Material Type: 3

Manufacturing Date: 01/08/2014

Manufacturing Time: 13:00:04

Batch Number: 1A2B3C4D5F

Initial Weight: 50000

Expiration Date: 01/08/2017

Expiration Time: 13:00:04