

Design-for-Test (DFT) Demonstration Package Overview

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1. What Is Included in the Package?

The package includes

- Demonstration versions of the following SynTest Design-for-Test (DFT) tools:
 - **TurboScan**, a suite of scan design rule checking, scan synthesis, fault simulation, and test generation tools, which is useful for Chapters 2-4.
 - **VirtualScan**, a suite of test compression insertion and test generation tools, which is useful for Chapter 6.
 - **TurboBSD**, a suite of Boundary Scan and Test Access Port (TAP) module; insertion and test generation tools, which is useful for Chapter 10.
 - **TurboBIST-Memory**, a suite of tools for creating Built-In-Self-Test (BIST) circuitry for embedded memory of SRAM types, which is useful for Chapter 8.
 - **TurboBIST-Logic**, a suite of tools for creating Built-In-Self-Test (BIST) circuitry for embedded cores or Intellectual Properties (IPs), which is useful for chapter 5.
- TS_VS demo package includes two demonstration circuits s382 & s382_2clk, with required directories, library files, a “Readme” file that includes commands and options, and run scripts to run the circuits. s382 has one clock and s382_2clks has two clocks.
- TBSD demo package includes one demonstration circuit, s382, with required directories, library files, a “Readme” file that includes commands and options, and run scripts to run the circuit.
- TMBIST demo package includes one demonstration circuit, sram_1p_256x8, with the required directories, library files, a “Readme” that includes commands and options, and run scripts to implement the BIST.
- TLBIST demo package includes one demonstration circuit, s382_s0, with the required directories, library files, a “Readme” that includes commands and options, and run scripts to implement the BIST.

2. Capacity and Features

For demonstration purposes, the software

- Is license-free.
- TurboScan can handle circuit size approximately up to 10,000 gates.
- VirtualScan can handle circuit size approximately up to 5,000 gates.
- TurboBIST-Memory can handle at most 2 memories with a single BIST controller.
- TurboBIST-Logic can handle at most 3 clock domains and the port count of PRPG+MISR must be less than or equal to 100.
- Has necessary and sufficient set of options for the reader to gain an understanding of the featured technology.

3. Computing Environment and Installation Instruction

3.1. Size of the Package

TS_VS_Demo : 6 MB
TBSD_Demo : 2 MB
TMBIST_Demo : 1.51 MB
TLBIST_Demo : 5.2 MB

3.2. Computing Platform/OS

This package runs on Linux-RedHat

- Enterprise 3.0 AS/ES/WS
- Fedora (7.x, 8.x, 9.x)

3.3. Memory Requirement

TS_VS_Demo : Minimum of 32 MB free space
TBSD_Demo : Minimum of 16 MB free space
TMBIST_Demo : Minimum of 1.38 MB free space
TLBIST_Demo : Minimum of 13 MB free space

3.4. Installation Instruction

1. Log in as system administrator or as a regular user to prevent permission problems.
2. Change/Make the directory where you want the SynTest software installed.
For example,

```
cd /home/tools/syntest
```

Henceforth in this document, this full directory is referred to as <syntest_path>.
3. Right click on the package to be downloaded.
For example, **TS_VS_2006.tar.gz**
4. Select “Save As” and save the file in <syntest_path>.
5. Uncompress and untar the package with the following commands:
For example for TS_VS_2006.tar.gz

```
% gzip -d TS_VS_2006.tar.gz  
% tar -xvf TS_VS_2006.tar
```

You'll find the following main directories and files:

```
s382/  
s382_2clk/  
book_binary_2006/  
Readme  
TS_Tutorial.pdf  
VS_Tutorial.pdf
```

6. Move the directory book_binary_2006/ to <syntest_path>.
For example for TS_VS_2006/

```
% mv TS_VS_2006/book_binary_2006 <syntest_path>
```

7. Use the following command line to set the path for the tools:
`%setenv SYNTEST <syntest_path>`
`%set path = ($SYNTEST/book_binary_2006/bin $path)`

Note:

These command lines needs to be used every time SynTest tools are to be run.
Or these lines can be added directly to the .cshrc file.

8. (Optional) In case the user already has one of the tools installed and wishes to install another one, for example if TurboScan is already installed and now TurboBSD needs to be installed, then after going through step 1 to 5 for TurboBSD , use the following commands.

```
% cp -r TBSD_2006/book_binary_2006/bin/* <syntest_path>/book_binary_2006/bin
% rm -r TBSD_2006/book_binary_2006
```

Then go to Step 7

4. Where to Get More Information or Help?

Send email to info@syntest.com.

5. Remarks

The tool suites accompanying the book have been released in phases. This release concludes the releases and contains the most important design for testability, fault simulation, test generation, and test compression tool suite for the reader to get acquainted with Chapters 2, 4, 5, 6, 8 and 10.

Important Notice: SynTest Technologies, Inc. reserves the rights to revise the contents of its release package and release policy.