
SDTSRV EXAMPLES (DSK6000) README

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1 Revision History

Date	Name	Version	Description
12/07/2005	Shilpa Byrichetty	1.0	Initial creation of the document
04/17/2006	Shilpa Byrichetty	1.1	Added flash test cases

2 Release Notes

2.1 Version 1.1

- This release has more diagnostics features added to the SD XMLGUI application like programming, erasing and verifying Flash for C6000 targets.
- A new window called flash test is created in the xml file just for accessing flash functions and modifying flash options.
- The test window is modified such a way that all the tests are controlled from this window by checking or unchecking the corresponding test checkbox.

2.2 Version 1.0

- Initial Release

3 Overview

SD XMLGUI is a general-purpose framework which uses XMLGUI to create a sample application for testing some of the diagnostic features of C6000 products. This application provides a generic interface to JTAG communications channel that can be used as a coff loader as well as to support flash programming. Using SDXMLGUI as a coffloader prevents the use of Code Composer Studio to load and run a coff file. Using SDXMLGUI as a flash programming utility prevents the use of Code Composer Studio and Flash burn to program, erase and verify flash. Each window in the application is defined as xml files which are created on startup of SDXMLGUI. This application is tested on 6416dsk and 6713dsk targets when installed in a CCS 3.1 environment.

4 Description

The SD XMLGUI application which is used for testing various diagnostics of C6000 targets has four windows defined as .xml files (See sample output section 10)

4.1 Settings Window

OPTIONS		DESCRIPTION
Driver	Required for all Tests	Represents the driver path and driver name for a specific target
Board File	Required for all Tests	This is .dat file required for connecting to the target.
Processor Name	Required for all Tests	Default is cpu_0. Must match the board file.
Coff File	Required only for COFF Test.	This is the .out file to be loaded and ran in the target processor.

4.2 Flash Window

NOTE: Be sure to check Flash test checkbox in the Test window for the tests checked in the flash window to work.

OPTIONS	DESCRIPTION
Flash Erase	Erases flash for the specific target if checked.
No of Pages to Erase	Specify the no of pages to erase(0-represents maximum number of pages for a specific target)
Flash Program	Programs flash with the flash program data file (.out) specified if checked.
Flash Program Data file	Represents the bootable flash program data file (.out).
Flash Verify	Verifies the data in the flash with the flash program data file if checked.

Flash Verify Checksum	Verifies checksum of the data in the flash with the checksum of program data file if checked.
Flash Algorithm file	Executable (.out) file for the DSP being programmed and is executed on the target. Required for all flash operations.

4.2.1 Generating Flash Program Data File

The following are the steps involved in generating a bootable out file (Flash program data file) for POST example. You can follow the same method for any of your own projects:

- **Location:** The post example is located at <CCS_INSTALLDIR>\ examples\ *target*\ bsl directory.
- **Converting to a bootable hex file:** Follow the instructions specified in *target.hlp* file located at <CCS_INSTALLDIR>\ docs\ hlp directory to convert post.out to bootable post.hex file.
- **Converting .hex to .out file:** The utility AsciiHexLib.exe is used to convert .hex to .out. This utility is located in our main working directory (See Section 9). Put post.hex into your main working directory. Point the command window to that directory and type in

```
AsciiHexlib -hex post.hex -out posttarget.out
```

Now point your flash program data file to this directory from the SDXMLGUI application. This bootable .out file can be programmed into Flash so that the board will boot it and run POST example in standalone mode when it is powered up independently of the debug environment.

4.3 Test Window

OPTIONS	DESCRIPTION
Verbose Messages	Display messages while testing on the output window if checked.
Verbose Errors	Display error messages on the output window if checked

Register Test	Does a basic Register test for the specific target if checked
Memory Test	Does a basic Memory Test for the specific target if checked
Coff Test	Works as a coff loader if checked. Be sure to specify the coff file name in the Settings window.
Flash Test	Does flash tests with the options specified from the flash window.

5 Finding More Information

If you are interested in source code to the XMLGUI.exe application or XMLPARSER.dll, visit KRKsoft at <http://www.krksoft.com/sd/>.

6 Build Environment

- Target - C6000dsk, CCS 3.1 tools
- Host - WinXP Pro, MSVC 6.0 with Service Pack 5

7 Assumptions

- All files are installed and copied into <CCS_INSTALLDIR> \specdig \sdtsrv\Examples directory maintaining the relative directory structure.
- The Directory structure must be exactly duplicated within CCS install for the diagnostic to find emulation drivers.

8 Directory Structure

<CCS_INSTALLDIR>\specdig\sdtsrv\Examples

- \Coff- Generic coff files
- \dsk6000 - directories specific to 6000
 - \bin-Binary and .dll files required for both the target and host (this is the main working directory).
 - \Common-6000 Target specific files.

- **\Target-Output files**
 - **\Dsk6416**
 - Step.out – For testing coff.
 - Post6416.out – Flash Program data file
 - 6416FlashAlgorithm.out – Flash Algorithm file.
 - **\6416Flash-** CCS Project files for generating 6416 specific Flash algorithm file.
 - **\Dsk6713**
 - Step.out – For testing coff.
 - Post6713.out – Flash Program data file
 - 6713FlashAlgorithm.out – Flash Algorithm file.
 - **\6713Flash-** CCS Project files for generating 6713 specific Flash algorithm file.
- **\Test6xmfc-**Source files required to build Test6xmfc.dll (Host Test code).
- **\FlashSource-**Source files required to produce Flash Algorithm file.

9 Running the Application

- Connect your disks (dsk6416 or dsk6713) to PC and power the disk.
- Double-click on the XMLGUI.exe from the dsk6000 working directory.
- Open TestDSKtarget_USB.SDP project in the XMLGUI window if your target is connected to PC via USB.
- Open TestDSKtarget_XDS510USB.SDP project in the XMLGUI window if the target is connected to PC via XDS510USB emulator.
- Four tests Register test, Memory test, Coff test and Flash test may be performed all together or in any combination by checking and unchecking the checkboxes from the test window.
- Press the start button to see the results on the output window.

10 Sample Output

