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January 29th, 2015

SDE Upgrade Time Tagging Module Status

1. Completed the Time Tagging AXI Slave Peripheral Interface IP per the requirements from the October 2014 MTU software meeting.
2. Committed the Time Tagging AXI Slave Peripheral Interface IP to SVN repository on January 23rd, 2015.
3. Updated the Preliminary Time Tagging Module Specification, Version 2.0, to reflect the changes created at the October 2014 MTU software meeting on January 21st, 2015.
 - a. Includes register names, definitions, Zynq register address offsets, and register bit assignments.
4. Created a project in Vivado to test the AXI Slave Peripheral Interface IP on the ZED board.
 - a. The project makes use of the Vivado Integrated Logic Analyzer (ILA) IP and Virtual I/O (VIO) IP.
 - b. Two ILA cores (one for each clock) and one VIO core are used.
 - c. Relevant nets are marked for debug and displayed as waveforms by the ILA cores.
 - d. Simulated events are created by the VIO core to trigger the ILA waveforms.
 - e. Using the VIO core makes the testing independent of the hardware platform that the test program is launched on (example, ZED board or UUB).
 - f. Waveforms allow the examination of timing and vector values.
 - g. A short C program runs in hardware to exercise the Time Tagging module registers.
 - h. The C program is launched by SDK.

- i. The C program prints Time Tagging register values to standard I/O which is a virtual terminal.
 - j. Register values on the terminal can then be compared to vector values displayed by the ILA waveforms.
- 5. Have run various tests on the AXI Slave Peripheral Interface using the Vivado testing project on the ZED board.
- 6. Not sure at this time how to commit the Vivado testing project to the SVN repository.
 - a. The Vivado test project directory is 60Mb in size.
 - b. A TCL file could be created that would contain the commands that would re-create the project to the state when the project was generated.
 - c. However, the source files that were local or imported into the original project would have to be added to the source control system (SVN repository) in order to use the TCL file.