SystemC Project

Please send corrections (or suggestions) to youngwlim@hotmail.com.

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Some Tutorial links in SystemC

www.es.ele.tue.nl/~heco/courses/ProcDesign/systemc_1_tutorial.pdf

homepages.cae.wisc.edu/~ece734/SystemC/Esperan_SystemC_tutorial.pdf

www.asic-world.com/systemc/

Some Tutorial links in SystemC TLM

http://www.cerc.utexas.edu/~jaa/soc/lectures/8-2.pdf

http://www.vlsi.informatik.tu-darmstadt.de/student_area/es2/files/EBS2-7.pdf

SystemC Software Download Page

http://accellera.org/downloads/standards/systemc

SystemC UART Modeling

http://www.embecosm.com/appnotes/ean1/ean1-tlm2-or1ksim-2.0.pdf

SystemC UART Modeling

Can be run with OpenRISC ISS (Instruction Set Simulator)

ISS Installation Guide
http://www.embecosm.com/appnotes/ean2/embecosm-or1k-setup-ean2-issue-3.pdf

First try to understand the supplied code examples
And, to run after installation

SystemC UART Modeling

0. Install Linux (Ubuntu, Fedora, Mint)

1. Download and Install SystemC

   http://accellera.org/downloads/standards/systemc

2. Download and Install OpenRISC 1000 ISS (Instruction Set Simulator)

   http://www.embecosm.com/appnotes/ean2/embecosm-or1k-setup-ean2-issue-3.pdf (doc)
   http://opencores.org/or1k/OpenRISC_GNU_tool_chain#Installation_of_development_versions

3. Run the reference code

   http://www.embecosm.com/appnotes/ean1/ean1-tlm2-or1ksim-2.0.pdf (doc)
   https://github.com/embecosm/esp1-systemc-tlm/tree/master/sysc-models
   a. logger
   b. simple-soc
   c. sync-soc
   d. decoup-soc

Project Report

1. SystemC Introduction
   - What is SystemC
   - Why has SystemC been developed?
   - What's the usage, purpose

2. TLM Introduction
   - What is SystemC
   - Why has SystemC been developed?
   - What's the usage, purpose

3. Sample Program
   - Run the chosen sample example code (sysc, tlm)
   - Analyze the result output.

4. SystemC UART simulation – Embecosm Documents

5. SystemC SPI / I2C simulation

References

[1] http://en.wikipedia.org/
[2] http://www.allaboutcircuits.com/
[3] W. Wolf, “Modern VLSI Design : Systems on Silicon
[4] N. Weste, D. Harris, “CMOS VLSI Design: A Circuits and Systems Perspective”
[5] J. P. Uyemura, “Introduction to VLSI Circuits and Systems”
[6] https://en.wikiversity.org/wiki/The_necessities_in_SOC_Design
[7] https://en.wikiversity.org/wiki/The_necessities_in_Digital_Design
[8] https://en.wikiversity.org/wiki/The_necessities_in_Computer_Design
[9] https://en.wikiversity.org/wiki/The_necessities_in_Computer_Architecture
[10] https://en.wikiversity.org/wiki/The_necessities_in_Computer_Organization