

SystemC - Events (08A)

SystemC

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This document was produced by using OpenOffice and Octave.

Based on the following original work

- [1] Aleksandar Milenkovic, 2002
CPE 626 The SystemC Language – VHDL, Verilog Designer's Guide
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- [2] Alexander de Graaf, EEMCS/ME/CAS, 2010
SystemC: an overview ET 4351
ens.ewi.tudelft.nl/Education/courses/et4351/SystemC-2010v1.pdf
- [3] Joachim Gerlach, 2001
System-on-Chip Design with System of Computer Engineering
<http://www2.cs.uni-paderborn.de/cs/ag-hardt/Forschung/Data/SystemC-Tutorial.pdf>
- [4] Martino Ruggiero, 2008
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polimage.polito.it/~lavagno/codes/SystemC_Lezione.pdf
- [5] Deepak Kumar Tal, 1998-2012
SystemC Tutorial
<http://www.asic-world.com/systemc/index.html>

Event

Events are occurrence of signal values and changes.

- Events are meant to trigger processes of modules.
- An event has no duration or value.

It can be used for

- static sensitivity of processes, or
- dynamic sensitivity of processes

Event Trigger

Triggering events: event.notify()

- Events occur explicitly by calling `.notify()` method
- When an event notification is scheduled,
the previous outstanding scheduled event is canceled

Canceling events: event.cancel()

Events can be explicitly canceled by calling `.cancel()` method

sc_event Queue

sc_event queue

- sc_event_queue lets a single event be scheduled repeatedly even for the same time
- when events are scheduled for the same time, each happens in a different delta cycle
- sc_event_queue objects do not support immediate notification
- .cancel() is replaced with .cancel_all()

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References

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