

Quartus II Advanced Workshop



Course Description

This workshop covers advanced design, verification and debugging techniques for programmable logic. It targets engineers who already have some experience with Quartus II and programmable logic in general. It will enable participants to shorten design cycles as well as improve design performance and utilization. The workshop is a combination of lectures and hands-on exercises.

Skills Developed

- Applying basic and complex timing constraints to an FPGA design
- Analyzing an FPGA design for timing using the TimeQuest timing analyzer
- Writing and manipulating SDC files for analysis and controlling the Quartus II compilation
- Perform Floorplanning for programmable logic
- Apply the Quartus II incremental compilation flow
- Use Quartus II software settings to improve internal & I/O timing, reduce logic resource usage & lower power consumption
- Choose recommended HDL coding styles
- Run Design Space Explorer to select optimal setting for full or partial designs
- Analyze power consumption with the PowerPlay power analyzer
- Debug designs in-system using the SignalTap II embedded logic analyzer
- Connect internal debug nodes to an external logic analyzer using the Logic Analyzer Interface
- View & edit embedded memory contents using the In-System Memory Content Editor

Skills Required

- Experience with programmable logic design
- A working knowledge of the Quartus II software

Course Length	3 days	
Language	Presentation in German or English Slides and documentation in English	
Platform	PC Windows XP / Windows 7	
Pricing	Public In-House	1500,- EUR/attendee On Request
Dates	See schedule at http://www.elcamino.de	

Exercises

- Quartus II Incremental Compilation
- Timing Optimization
- Timing Optimization using PLLs
- Introduction to the TimeQuest Tool
- Clock Constraints
- Synchronous I/O Constraints
- Timing Exceptions & Analysis
- Power Analysis
- Debugging with In-System Sources & Probes and the SignalTap II Embedded Logic Analyzer

El Camino GmbH
Landshuter Str. 1
84048 Mainburg
Germany

phone: +49-8751-8787-0
fax: +49-8751-842876
e-mail: info@elca.de
www.elcamino.de

© 2010 El Camino GmbH

Altera, Stratix, Arria, Cyclone, MAX, HardCopy, Nios, Quartus, and MegaCore are either registered trademarks or trademarks of Altera Corporation in the United States and/or other jurisdictions. All other trademarks are the property of their respective holders.

