ARM7/9 Hardware Design

Summary:
This course is designed for those who need a good grounding in designing hardware based around ARM cores. Including an introduction to the ARM product range and supporting IP, the course covers the ARM core range and AMBA on-chip bus architecture. The ARM debug architecture, real-time trace solution and simulation models are also covered. The course includes a number of worked examples to reinforce the lecture material.

Prerequisites:

- Some knowledge of embedded systems
- Familiarity with digital logic and hardware/ASIC design issues
- A basic awareness of ARM is useful but not essential

Audience:
Hardware design engineers who need to understand the issues involved when designing SoC's around ARM cores.

Length:
3 days

Modules:

- The ARM Architecture
- ARM CPU Architectures
- Memory Sub-systems
- Memory Management
- ARM Processors Overview
- ARM Instruction Sets
- Instruction Set Workbook
- Exception Handling
- AHB Protocol
- AHB Connection Architectures
- APB
- ADK
- Primecell VIC
- ARM7TDMI Processor
- ARM7TDMI Memory Interface
- ARM946E Processor
- ARM946E Interfaces
- ARM946ES Implementation
- ARM946E/946 Coprocessors
- ARM922T Processor
- ARM922T Memory Management
- Initializing ARM Processors
- Debugging ARM-based Systems
- Tracing ARM-based Systems
- ARM Processor Simulation Models
- ARM Processor Integration