ARM Cortex-A9 MPCore Hardware Design

Summary:
This course is designed for those who are designing hardware based around the Cortex-A9 MPCore multiprocessor.

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 the ARM Cortex-A9 MPCore multiprocessor.

Length:
4 days

Modules:

- ARM Architecture v7-A/R Overview
- ARM v7-A/R Applications Level Programmers Model
- ARM v7-A/R System Level Programmers Model
- ARM v-7A/R Memory Model
- ARM v7-A Virtual Memory System Architecture
- ARM v7-A/R Exceptions
- ARM v7-A Security Extensions
- Micro-Architecture: Pipelines
- Micro-Architecture: Memory
- Introduction to SMP & MESI
- AXI Protocol
- Cortex-A9 MPCore Overview
- Cortex-A9 Processor Core
- Cortex-A9 L1 Sub-Systems
- Cortex-A9 MPCore Sub-systems
- Cortex-A9 MPCore L2 Interfaces
- Cortex-A9 MPCore Configuration & Deployment
- Cortex-A9 MPCore Implementation Overview
- Cortex-A9 MPCore Clocks, Resets & Power Management
- Cortex-A9 Memory Management
- Cortex-A9 MPCore Interrupt Controller
- Initializing Cortex-A9 MPCore based Systems
- Introduction to CoreSight
- Cortex-A9 Invasive Debug
- Cortex-A9 Non-Invasive Debug
- Cortex-A9 MPCore Integration
- L2CC – PL310
- AXI Interconnection Architectures
- NIC301