

Overview Intel® QuickPath Interconnect Architecture

Training

Let MindShare Bring “Intel® QuickPath Interconnect (QPI)” to Life for You

The modern PC architecture will be revolutionized with the advent of Intel's latest generation of Nehalem and Tukwila processors. Communication bottlenecks between processors as well as between the processor and chipset will be eliminated with the replacement of the former processor bus (commonly referred to as the Front-Side Bus or FSB) with the latest generation high-speed, low-latency point-to-point Intel QuickPath Interconnect. This new inter-processor and processor-chipset interconnect will allow for seamless integration and connection of one or more processors (such as in server platforms) with the chipset.

You Will Learn:

- Benefits of Intel QPI over previous generation processor buses
- PC system block diagrams
- Fundamentals of the Intel QPI protocol (coherent and non-coherent)
- Performance considerations

Course Length: 1 day

Who Should Attend?

This course is designed for project managers, team leaders, FAEs, marketing/sales personnel and system board designers. Anyone who needs an understanding of Intel QPI architecture at an overview level will benefit from this course.

Course Outline:

- Historical Perspective: Intel Front-Side-Bus (FSB) and platform architecture
- Intel QPI features
 - Performance
 - Packets, Flits, Phits
- Platform architecture based on processors with Intel QPI
 - Single-, Dual-, Quad- and Larger- processor systems
- Overview of layered architecture in QPI interface design
 - Agents, Nodes, Addressing, Routing
 - Channels / Virtual Networks / Virtual Channels
 - Cache coherency examples with Intel QPI
- Protocol Overview
 - Coherent Protocol Fundamentals
 - MESIF cache coherency protocol
 - Source Snooping overview
 - Home Snooping overview
 - Mixed Snooping overview
 - Non-Coherent Protocol overview



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Recommended Prerequisites:

A basic understanding of computer architecture.

Training Materials:

Students will be provided with a soft- copy of presentation material used in class.



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