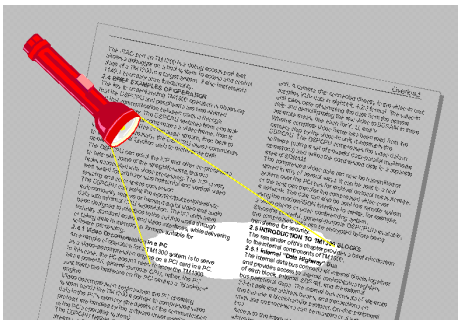
TriMedia CPU core: a 1-day class

TriMedia Foundation

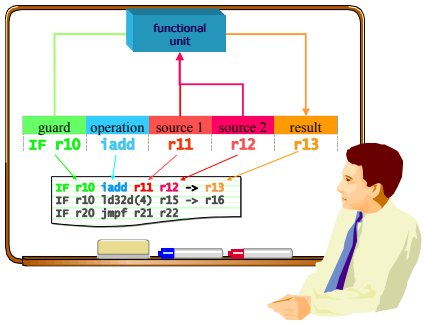
Benefits

- Program TriMedia efficiently
- Exploit parallelism better
- Use profile & schedule reports

Take full advantage of the TriMedia core. Use compilation tools, profile and schedule reports to guide you to writing more efficient programs.



Groping in the dark?



Let us instruct you

Contents

This session describes the TriMedia CPU core and explains both why it was made this way, and how to use it well to get the best performance. It includes basic understanding of how to generate, read and use schedule and profile reports to guide better and more efficient programming. Sessions cover:

CPU core architecture

Understand the design choices in the TriMedia CPU core including the challenges of parallel scheduling: and apply this understanding to maximize software efficiency.

- CISC, RISC and Superscalar
- VLIW architecture
- Parallel scheduling
- Program parallelism

Instruction set

Understand how the instruction set. is crucial to TriMedia's fast performance. Apply this understanding to evaluate and take advantage of TriMedia architecture.

- Instruction set design
- Instruction format

Registers and memory

Learn how to use TriMedia's 'register-based' design and the memory heirarchy.

- Registers and data formats
- Registers, cache and memory

CPU functional units

Know the types of functional units available and their purpose: consider basic optimization strategies, and know how to measure functional unit usage and efficiency.

- CPU functional units
- Measuring functional unit usage
- TM32A, 3260, 3270, 5250

Compilation tools

Know how to use the TriMedia compilation tools including for profiling, debugging and simulation.

- The compilation tool chain
- Decision trees and parallelism
- Schedule and profile reports
- Simulation and debugging

Cache architecture

Understand the basic cache architecture and its impact on performance and optimization.

- Cache architecture overview
- Using cache profile reports
- TM32A, 3260, 3270, 5250
- TM-Lite

Custom operations

Know the purpose and basic usage of custom operations.

- Custom operations
- SIMD operations
- TM32A, 3260, 3270, 5250
- TM-Lite

Time and arrangements

This session takes 1 day.

It is presented 'on-site' by arrangement - the material can be adapted if you have specific needs (at extra cost).

Sometimes we arrange 'public' classes: schedules are posted on the Internet:

http://www.bores.com/schedule.htm

Pic'N'Mix

You can design a class to suit your own specific needs. Each of the topics in this TriMedia Foundation class can be a self-contained session, from which you can "pic'n'mix" to make your own class.

Contact us:

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Booking and questions

Call us by 'phone or send email to book or to ask questions.

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Foundation class

The 'TriMedia Foundation' is a 4-day class on all aspects of the TriMedia. It includes this class.

We recommend this be part of the 4-day TriMedia Foundation class but it can stand on its own or be part of a custom class.

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