



Technology Overview and Research Challenges

What We Do

- **Cascade** – Fully automated ASIP synthesis for embedded systems.
- **Prism** – Optimized multicore software development



Migrating to Multicore

- Moore's Law is now a software issue
- Evolution not Revolution

The Prism Approach

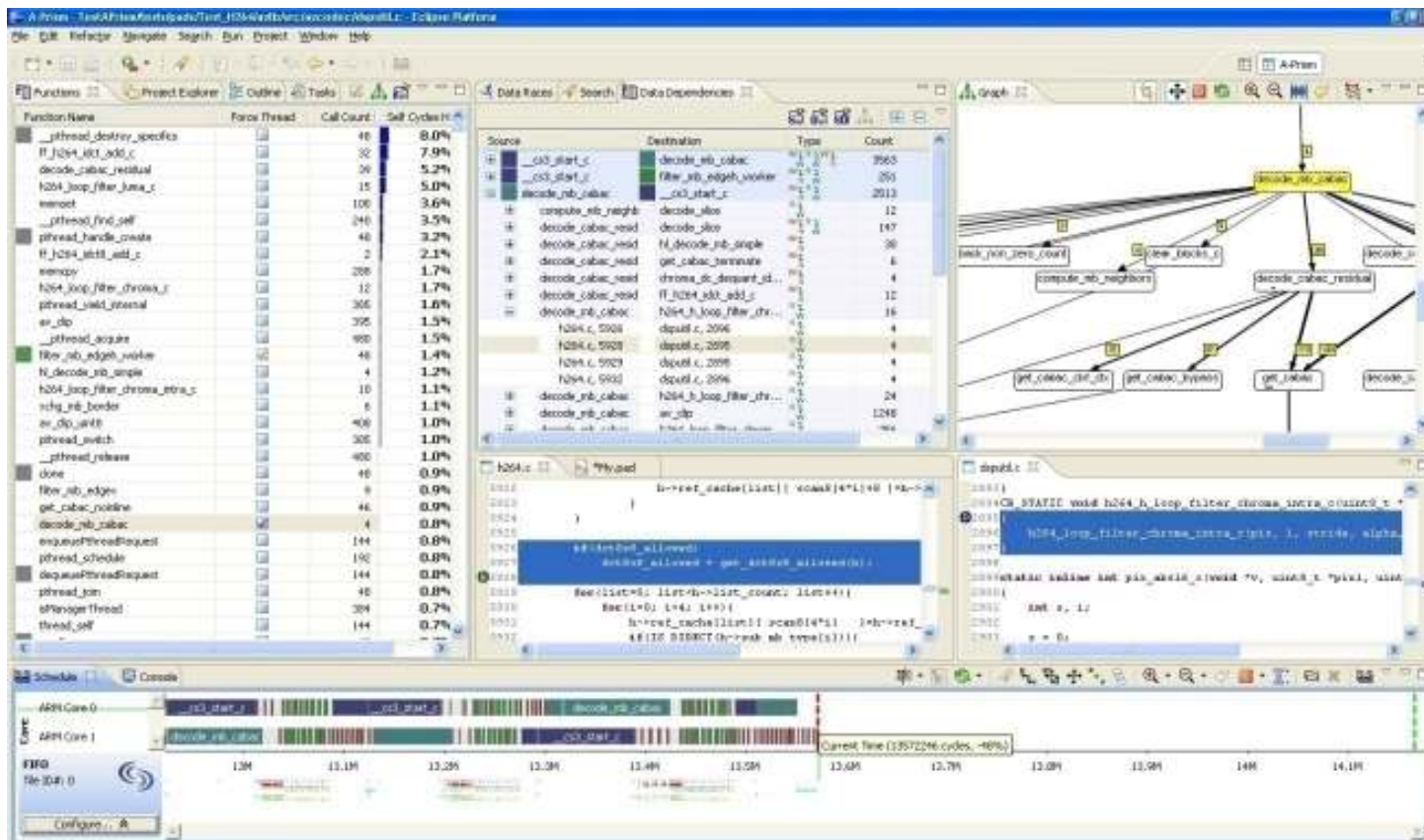
- Provide useful and platform neutral analysis
- Stay as abstract as possible
- Focus on semantics
- Analysis based on dynamic tracing

Research Challenges

- **Information Overload !**
- Capture
- Processing
- Visualization

An Example - HD Video Encode

- > 75,000M Instr. for 1 second with x264



What Would Help

- Dynamic multicore debug support
- Zero impact software tracing
- Standard OS event tracing hooks
- Full speed OS aware hardware tracing