



OpenSPARC™

# OpenSPARC Slide-Cast

## In Twelve Chapters

Presented by OpenSPARC designers,  
developers, and programmers

- to guide users as they develop their own OpenSPARC designs and
- to assist professors as they teach the next generation

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**OpenSPARC™**

## Chapter Six

# OPENSPARC: WHAT'S AVAILABLE?

**Thomas Thatcher**  
**Staff Engineer**  
**OpenSPARC Evangelist**  
**Sun Microsystems**



# OpenSPARC T1

- Complete Solution
  - > Full implementation -- CPU core, FPU, L2 in Verilog RTL
  - > Tools – Verification suite, Simulation, Performance, Compiler optimization tools
  - > Multiple OpenSource Operating Systems: Solaris 10, Linux, FreeBSD, etc
- All Open Source on the web
  - > from [OpenSPARC.net](http://OpenSPARC.net) and additional web sites
- Actively enabling community for Open Sourcing of hardware and software

# What's Available – for HW Engineering

- RTL (Verilog) of OpenSPARC T1 design (8 cores, 32 threads – **14 million lines of code!**)
- RTL for *reduced* OpenSPARC, for FPGA
- Synthesis scripts for RTL
- Verification test suites
- UltraSPARC Architecture 2005 Specification
- UltraSPARC T1 Implementation Specification
- Full OpenSPARC simulation environment
- “CoolTools”, including Sun Studio software, SPARC-optimized GCC compiler, development tools, ATS, etc

# What's Available – for SW Engineering

- Architecture and Performance Modelling Package, including:
  - SAS – Instruction-accurate SPARC Architecture Simulator (includes source code)
  - SAM – SPARC instruction-accurate full-system simulator (includes source code)
  - Solaris Images for simulation: Solaris 10, Hypervisor, OBP
  - Legion – SPARC full-system simulation model for software developers (includes source code)
  - Hypervisor source code
  - Documentation

# What's Available – other sources

- OpenSolaris (OpenSolaris.org)
- Linux ports for T1-based systems:
  - > Ubuntu
  - > Gentoo
  - > Wind River Linux
  - > FreeBSD
- “Simply RISC” processor design based on OpenSPARC (SRisc.com)
- New Hennessy & Patterson book, Chap 4
- Chip Multiprocessor Architecture book by Kunle, Hammond, and Laudon
- ...etc...



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# Thanks for watching the OpenSPARC Slide-Cast!

Let us hear from you! The OpenSPARC Team would appreciate your feedback on this in the <http://www.OpenSPARC.net> forum.

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