

R. Guy Lauterbach

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Objective

Consultant, contract or direct position involved in system architecture, microcode, firmware, design verification, diagnostics, or software engineering in a product development environment.

Strengths

- . • Excellent functional and product management skills and experience
- . • Outstanding software design skills
- . • Start-up experience
- . • Key contributor in development / bringup environment

Education

B.S. Mathematics, 'with high scholarship', Oregon State University, Corvallis, OR
Graduate School, Computer Science, Oregon State University, Corvallis, OR

Employment History

Network Appliance, Sunnyvale, California

Responsible for all aspects of design and development of boot firmware and system diagnostics. Positions have included MTS, Manager of Firmware and Diagnostics, and Chief Engineer. Grew the department from a single position to a group of ten before transitioning to Chief Engineer. Served as lead technical developer for two of NetApp's most successful storage product lines (Alpha architecture '700 series and x86 architecture '800 series), providing a strong focus on manufacturability, serviceability and ease of use. Led bringup effort for several NetApp servers. Worked closely with Manufacturing and Customer Satisfaction organizations to champion their needs within Platform Engineering. Evaluated and recommended new product and development concepts and new vendors. Architected NVRAM4 card and designed and implemented firmware for that Xscale-based device. Championed a number of important improvements to NetApp platforms, including compact flash boot device, common firmware environment, Field diagnostics and user-oriented features. Three joint US Patents.

Maspar Computer Corporation, Sunnyvale, California

Responsible for many aspects of design and implementation of massively-parallel computer system, including CPU and router microcode (192-bit VLIW), design verification, instruction set definition and system architecture. Designed and developed system cycle simulator and hardware emulator for debug of microcode and verification software. Analyzed system performance and proposed hardware modifications for improvement. Ran hardware VHDL simulations and located design defects. Also responsible for micro-assembler and other system support tools. Awarded Employee of the Quarter.

HaL Computer Systems, Campbell, California

Responsible for design verification of 12 custom VLSI chips, including CPU, cache, MMU and I/O, with a goal of zero post-tapeout fatal defects. Additional responsibilities included design defect estimation and tracking, specification and implementation of the simulation environment, cell library verification, and development of tools and strategies to improve simulation efficiency. Developed hand-coded simulation models for most complex cells in order to improve simulation efficiency. Implemented tracking and reporting software to provide extensive reporting of simulation progress. Directly responsible for staffing (including management of outside contractors), equipment acquisition and allocation, and budgeting.

Amdahl Key Computer Laboratories, Fremont, California

Formed, staffed and established direction for four groups involved in development of a RISC-based mainframe computer, along with budget, headcount, and schedule activities. Groups under my direction included Tools Software (simulators, CAD/CAE tools, ATPG tools), Diagnostics (off-line and concurrent, scan-based and functional), Console Software (including Diagnostic Monitor and High Availability support), and Design Assurance (system prototype power-on and bringup, RAS).

Staffed and led team in development and implementation of all design verification and diagnostic software for an ECL gate-array based super-computer. Specified diagnostic strategy and standards. Led development of functional tests for all areas of the system, including CPU (integer, floating-point & caches), memory and I/O, and scan-based tests to support chip fabrication and low-level system control. Hands-on contributor in addition to management role directing the activities of seven staff engineers.

Pyramid Technology, Mountain View, California

Personal contributions included development and maintenance of CPU microcode for Pyramid products (98x, 9000), written in propriety micro-assembly language, and architecture of new console operating system with remote maintenance support for next-generation systems and leading team in its implementation. Provided prototype bringup software (tools, diagnostics, low-level debuggers, boot procedures, etc.) in support of new computer system (MIServer). Most of this code was written in MC680x0 C and assembly languages. Developed and maintained a complete suite of architectural-level diagnostics for Pyramid hardware. Ported (including extensive debug) several versions of UNIX utilities to the Pyramid architecture, including rewriting of support libraries. Served as Manager of Diagnostics development.

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BTI Computer Systems, Sunnyvale, California

Participated in and eventually managed the development of utility software for the BTI 8000 computer system, a proprietary 32-bit super-mini. Designed and implemented a wide variety of system utilities, including state-of-the-art remote diagnostic facility and high-level language debugger. Also took over and completed development of a proprietary Basic compiler.

Oregon State University Computer, Corvallis, Oregon

Efforts included development of student housing data base and scheduling system, on-line fee-payment system and student course-scheduling system. Maintained and enhanced the OS-3 operating system, a multi-user timesharing system. Developed several re-entrant device drivers for OS-3 and completely redesigned the OS-3 file system and support utilities.