

Hot Chips 10

A Symposium of High-Performance Chips

August 16-18, 1998

Memorial Auditorium
Stanford University
Palo Alto, California

Sunday, August 16, 1998

Morning Tutorial

Intellectual Property Law as Applied to the Computer and Electronics Industries

Margaret Jane Radin

William Benjamin Scott & Luna M. Scott Professor of Law, Stanford Law School

Afternoon Tutorial

Fast CPUs Are Good ... but Fast I/O is Better

Fred Berkowitz, Silicon Graphics

Silicon Graphics Peripherals Team

Monday, August 17, 1998

Welcome and Opening Remarks

Allen Baum (General Chair)

(.pdf)

John Wawrzynek and Norm Jouppi (Program Co-Chairs)

(.pdf)

Session 1 High Performance Processors (Part 1)

Monica Lam (Session Chair)

The Alpha 21264 Microprocessor: Out-Of-Order Execution at 600 MHz

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Richard E. Kessler, Compaq Computer Corporation

UltraSPARC-III: A 600 MHz 64-bit Superscalar Processor for 1000-way Scalable Systems

(.pdf)

Gary Lauterbach, Sun Microsystems, Inc.

Techniques for Mitigating Memory Latency in the PA-8500 Processor

(.pdf)

David Johnson, Hewlett-Packard Company

Session 2 Embedded and Embeddable Processors

Kazuaki Murakami (Session Chair)

M32Rx/D - A Single Chip Microcontroller with a High Capacity 4MB Internal DRAM (.pdf)

Toru Shimizu, Mitsubishi Electric Corporation

Genesis Microprocessor (.pdf)

Jack Choquette, SandCraft, Inc.

Session 3 Keynote Speaker

Monica Lam (Session Chair)

Greg Papadopoulos, Chief Technology Officer, Sun Microsystems, Inc.

Session 4 Specialized Chips

Alan Smith (Session Chair)

Designing a Single Chip Chess Grandmaster While Knowing Nothing about Chess (.pdf)

Feng-hsiung Hsu, IBM T. J. Watson Research Center

Accelerating Cryptography in Hardware (.pdf)

Mark Birman, Hi/fn

The EMU10K1 Digital Audio Processor (.pdf)

Tom Savell, E-mu Systems, Inc.

Session 5 High Performance Processors (Part 2)

Marc Tremblay (Session Chair)

IBM S/390 G5 Microprocessor (.pdf)

Timothy J. Slegel, IBM Corporation

A CMOS Vector Processor with a Custom Streaming Cache (.pdf)

Greg Faanes, Silicon Graphics, Inc.

AltiVec™ Technology: A Second Generation SIMD Microprocessor Architecture (.pdf)

Michael Phillip, Motorola, Inc.

Session 6 Panel

John Wharton (Moderator)

Confronting the Microsoft Challenge

Tuesday, August 18, 1998

Session 7 MPEG and Digital TV

Gert Slavenburg (Session Chair)

A Single-chip MPEG2 MP@ML Video Encoder with Multi-chip Configuration for a Single-board MP@HL Encoder (.pdf)

Toshihiro Minami, Nippon Telegraph and Telephone Corporation

A Single-Chip DTV Media Processor (.pdf)

Selliah Rathnam, Trimedia Product Group

Two Chipsets for DTV Compliant with ATSC Standard (.pdf)

Hee-Bok Park, LG Electronics, Inc.

Session 8 General Purpose Processors with Integrated Media Support

Kunle Olukotun (Session Chair)

MXi: A High Performance x86 Processor with Integrated 3D Graphics (.pdf)

Rajeev Jayavant, Cyrix Corporation

Novel Multimedia Instruction Capabilities in VLIW Media Processors (.pdf)

J. T. J. van Eijndhoven, Phillips Research Laboratories

SA-1500: A 300 MHz RISC CPU with Attached Media Processor (.pdf)

Prashant P. Gandhi, Intel Corporation

Session 9 Graphics Accelerators

Bill Dally (Session Chair)

Blitzen: Lightning Speed 3D Geometry Accelerator (.pdf)

Alan Krech, Hewlett-Packard Company

Neon: A Big, Fast, 3D Workstation Graphics Accelerator (.pdf)

Joel McCormack, Mitsubishi Electric Research Laboratory

VelaTX - Innovative 3D Architecture Coupled with Embedded DRAM Architecture (.pdf)

Joseph C. Del Rio, Stellar Semiconductor, Inc.

Session 10 High Performance PC Processors

Ruby Lee (Session Chair)

Intel i740 Graphics Accelerator (.pdf)

Tom Piazza, Intel Corporation

PERMEDIA 3 - A Third Generation Graphics Controller for the Mainstream PC and DirectX (.pdf)

Neil Trevett, 3Dlabs

AMD 3DNow! Technology and the K6-2 Microprocessor (.pdf)

Stuart Oberman, Advanced Micro Devices