

Richard (Andy) Anderson

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Professional Experience

GLOBAL FOUNDRIES / IBM SYSTEMS & TECHNOLOGY GROUP, Essex Junction, VT

High Speed Interface IP Acquisition Engineer 2014-2018

Specified requirements High Speed Interface Intellectual Property (IP) which included vendor evaluations and contracts. Managed contract execution including timing closure, power analysis, documentation, physical design and qualification. Ensured financial payments were appropriately linked to meeting milestones. Supported client integration of the IP into their designs and provided on-site bring-up support for large telecom clients.

IBM SYSTEMS & TECHNOLOGY GROUP, Essex Junction, VT

Client Engineering Solutions Team Leader 2008 – 2014

Created and implemented a world-wide direct client technical engagement strategy to turn around declining 45nm ASIC design win rate and continued this for the next two subsequent ASIC nodes. Leveraged client requirements to set ASIC portfolio investment strategy (IBM Fall Plan). Drove design win financial models for ASIC business plan using knowledge of clients and their end markets.

ASIC Image/Package Methodology Manager 2005 – 2008

Leading a team of 17-20 electrical and mechanical engineers to define and implement IBM's ASIC packaging roadmap. In addition to managing a budget exceeding \$6M, provided guidance on signal integrity for data rates exceeding 10Gbps, package and chip power distribution, and thermal analysis.

IT Systems Architect and Marketing Strategist 2001 – 2005

Guided development investments for ASIC and embedded PowerPC investments for Server and Storage/RAID markets. Development market models to predict revenue stream and direct internal investment to support those requirements. Provided technical pre-sales support for Brocade, McData, Qlogic, HP, LSI, Hitachi, Agilent and several startup companies. Drove development of the 440 L2 cache and hardware TCP/IP assist in the PPC440GX SOC. Contributed to architecture of the PPC440SP and PPC440SPx including XOR engine and PCI Express interfaces. Conducted a web presentation to introduce the PPC440SP. Presented marketing view of performance analysis of ePPC SOCs at internal conference. Managed relationship with TOE software partner and PCI board for PPC440GX.

MIT Coop Recruiter 1998– 2008

Managed program for all of IBM from 2003-2008.. Advisor for MIT Master's Thesis for Low Power Discrete Cosine Transform ASIC core compliant with the JPEG standard. Student received MIT Thesis award, and design was used in IBM Check Processing Machine.

Richard Anderson

ASIC Core Engineer 1999 –2001

Architected and designed, as well as wrote the user's manual for two different configurations of an IDE hard drive controller ASIC core for the PLB CoreConnect bus. Products with these cores continue to ship today.

Developed guidelines for ASIC core product briefs, databooks and errata to improve communication with customers, which is now used for all ASIC cores

MPEG-2 Engineer, 1996 - 1999

Architected, co-designed, and wrote the user's manual for a high performance MPEG-2 transport ASIC core used in a number of set-box and production studio designs. Drove the development of a software driver layer to match hardware architecture to different middleware stacks.

x86 Engineer, 1992 – 1996

Assisted in the design of the first 100MHz microprocessor. Managed production yields and improved yield of 100MHz parts using Teradyne J971 tester as well as facilitated burn-in test development. Led support team for the Cyrix M9 processor.

1990 - 1992

NCR CORPORATION, Atlanta, GA

Hardware Development Technology Leader

Created strategy for incorporating touch screens, and VGA subsystems for CRTs and LCDs into Retail Point of Sale Terminals. Built prototype system in less than two weeks for National Restaurant Show, which launched NCR's entry into retail self service terminals. Launched product development which was cut in half to just 9 months enabling early entry into the market. Developed cost model including manufacturing costs. Negotiated technical requirements and cost with touch screen vendors. Helped vendor improve optical performance. Provided technical support for early application development and customer sales.

1987-1990

NCR CORPORATION, Cambridge, OH and Atlanta, GA

Human Interface Project Leader

Led the development of the Customer Activated Terminal (CAT). The CAT provides an easy to learn and use user interface to enable fast food customers to quickly enter their order. The effort included software application and drivers, electronic and mechanical hardware, industrial design, graphic design, and human interface specification and testing. Duties included hiring and training personnel, acquiring customer requirements, budgeting and preparing performance reviews. Provided technical leadership by using Smalltalk to support rapid development and iteration of the user interface design. A fully functional retail terminal was developed and user interface data collected at a Papa Gino's restaurant in the Boston area. Used Smalltalk-80, Smalltalk-V, Envy/Developer, 'C', and assembly language.

PATENTS

Wike, C. K., Anderson, R. E., McGaha, J. A. (1992) Scanning point-of-sale terminal. United States Patent US5113060A

Anderson, R.E., Foster, E. M., Franklin, D. E. (2000) Protocol and procedure for automated channel change in an MPEG-2 compliant datastream. United States Patent No. US6078594A

Anderson, R.E., Foster, E. M. (2000) Protocol and procedure for time base change in an MPEG-2 compliant datastream. United States Patent No. US6115422A

Anderson, R.E., Foster, E. M., Rohrbaugh G. W., (2000) Concealing errors in transport stream data. United States Patent No. US6026506A

Anderson, R.E., Foster, E. M., Rohrbaugh G. W., (2000) Auxiliary transport assist processor especially for an MPEG-2 compliant decoder. United States Patent No. US6088357A

Anderson, R.E., Foster, E. M., Rohrbaugh G. W., (2000) Detection of errors in table data. United States Patent No. US6072771A

Anderson, R.E., Foster, E. M. (2001) Pulse generator for a voltage controlled oscillator. United States Patent No. US6195403B1

Anderson, R.E., Foster, E. M., Rohrbaugh G. W., (2001) Common buffer for multiple streams and control registers in an MPEG-2 compliant transport register. United States Patent No. US6181706B1

Anderson, R.E., Foster, E.M., Franklin, D.E. (2001) System and method for merging multiple audio streams. United States Patent No. US6311161B1

Anderson, R.E., Foster, E. M., Rohrbaugh G. W., (2001) Delivery of MPEG2 compliant table data. United States Patent No. US6229801B1

Anderson, R.E., Foster, E. M., Rohrbaugh G. W., (2001) Transport demultiplexor for an MPEG-2 compliant data stream. United States Patent No. US6275507B1

Anderson, R. E., Foster, E. M., Hodges, M. R. (2002) Embedded Clock Recovery and Difference Filtering for an MPEG-2 Compliant Transport Stream. United States Patent No. US6356567B2

Anderson, R.E. (2012) Digital audio/video clock recovery algorithm. United States Patent No. US8306170B2

Anderson, R., Faucher M., Georgiou, C., Noel, F. (200) Method and apparatus for translating data packets from one network protocol to another. United States Patent No. US20050078704A1

Anderson R. E., Georgiou, C. J., Sandon, P. A. (2012) Method of computing partial CRCs. United States Patent No. US8108753B2

PUBLICATIONS

Nanju Na, Marcel Arseneault, Katsuyuki Yonehara, Haitian Hu, Deborah Zwitter, Edward Wolf, Krishna Srinivasan, Carrie Cox, **Richard Anderson**, "Common Mode Return Loss Consideration in Wirebond Packaging For High Speed SerDes Links" 15th Conference on Electrical Performance of Electronic Packaging, 2006

R. Anderson and E. Foster, "Design of an MPEG-2 Transport Demultiplexor Core" IBM Journal of Research and Development, July 1999

R. Anderson, E. Foster, D. Franklin, and R. Svec, "Integrating the MPEG-2 Subsystem for Digital Television," IBM Journal of Research and Development, November 1998

Richard Anderson, Richard Henneman, Michael Inderrieden, and Brett Taylor, "Evolutional Design of a Customer Activated Terminal: a Case Study," Proceedings of the Human Factors Society 34th Annual Meeting, 1990

Andy Anderson, "Cache Memory: The Secret of Increased Performance," Hardcopy, October 1987

CONFERENCE PRESENTATIONS

"Experience with Smalltalk," SCOOP-EAST, June 1991.

VOLUNTEER AND YOUTH WORK

2007, 2008, 2019, 2020

AARP TaxAid

- Prepared Federal and Vermont income tax returns for elderly and lower income members of the community.

2014-2019

Vermont Science, Technology, Engineering and Mathematics (STEM) Fair Judge, Norwich University

- Interviewed students in grades 5-12 on their projects
- Provided guidance and support for students to maintain interest in a STEM path
- Rated each student's project to assist selection of the top projects

2017, 2018, 2019

Head Boys Volleyball Boys Coach, MMU, Jericho, Vermont

- Provided guidance to the team on team work, skills, fair play, and fun
- Boys placed 2nd in Jamboree JVA bracket in 2018 and 1st in JVB bracket in 2017
- Successfully advocated for boys from the team to be named to Vermont Youth Volleyball Association High School All-stars
- Assisted with Browns River Middle School March Madness volleyball programs

2019

High School Math Tutor, Jericho, Vermont

2019, 2020

Strive for College Mentor

- Provided guidance to high student on the college selection and application process

Summers 2014-2019

Stroke and Turn Official, Town of Essex Swim Team, Essex, Vermont

- USA Swimming certified official supporting the Champlain Valley Swim League and state meets
- Supporting coaches ensuring the young swimmers legally swim each of the four strokes

Summers, 1990, 1991, 1993

Camp Counselor, Camp Breathe Easy (American Lung Association), Atlanta, Georgia

- Provided guidance to a group of eight boys during week long camp
- Assisted boys with medication, handled minor emergencies, helped with asthma education

Spring 1985

Guest/Substitute Teacher, Campbell County School District, Gillette, WY

- Taught 7th-12th grade math, enriched reading, and business classes

Summer 1987

Rifle Range Instructor, 4-H Camp, Sundance, Wyoming

- Instructed children ages 9-18 on firearm safety as they worked towards marksmanship awards