Panel:

Outsourcing Engineering Development Offshore

Moderator:	John Nickolls (NVIDIA)
Panelists:	Ron Hira (IEEE-USA, RIT)
	Vinod Dham (NewPath Ventures)
	T. J. Rodgers (Cypress Semiconductor)
	Carl Everett (Accel Partners)
	Natasha Humphries (TechsUnite SV)
	Pratul Shroff (eInfoChips)

Abstract

Many technology companies are outsourcing engineering development to offshore locations, including India, China, and Russia. The panel will discuss their experience, data, and opinions on offshoring engineering development and debate its benefits, problems, and issues. Some questions follow.

Is offshoring a fad? Or essential to compete globally?

What motivates companies to outsource engineering?

Are engineering jobs lost here when development is done offshore?

Are savings from offshoring significant?

How do you make offshore development work well? What can go wrong?

Is offshored work of superior quality?

Why not move all engineering offshore? Or start there?

Should the government restrict offshoring?

Is rhetoric like "Benedict Arnold CEOs" appropriate?

What should dislocated engineers do? What would you do?

Panel Biographies Ron Hira

IEEE-USA, Rochester Institute of Technology

Dr. Ron Hira is an Assistant Professor of Public Policy at Rochester Institute of Technology where he specializes in engineering workforce issues and technology policy. He is a recognized expert on offshore outsourcing.

Ron spent ten years working as a control systems engineer and program manager with Sensytech, NIST, and George Mason University (GMU). He taught graduate courses in electrical engineering at GMU and has been a consultant for the Rand Corporation, the National Research Council, Deloitte & Touche, and Newport News Shipbuilding.

Ron has testified before the U.S. Congress twice on the implications of offshore outsourcing. He has given dozens of invited presentations on the subject to a variety of audiences. He has appeared on Now with Bill Moyers, Lou Dobbs' Moneyline, interviewed in Newsweek and has been widely quoted in major media publications such as the New York Times, Wall Street Journal, Financial Times, Chicago Tribune, Washington Post, Nikkei, and San Francisco Chronicle about offshore outsourcing of engineering work.

Ron completed his Post-Doctoral Fellowship at Columbia University's Center for Science, Policy, and Outcomes. He holds a Ph.D. in Public Policy from George Mason University, an M.S. in Electrical Engineering also from GMU, and a B.S. in Electrical Engineering from Carnegie-Mellon University.

Ron is participating in the Council on Competitiveness' National Innovation Initiative and the Council on Foreign Relations' research roundtable on Technology, Innovation and American Primacy. He is a licensed professional engineer and is currently Chair of the Career & Workforce Policy Committee of IEEE-USA. He is a past Chair of the R&D Policy Committee of IEEE-USA and recently received IEEE-USA's Citation of Honor award for his work on behalf of US engineers. Ron is a Senior Member of the IEEE and a TAC ABET program evaluator.

Vinod K. Dham NewPath Ventures

Vinod K. Dham is a Co-founder and Managing Member of NewPath Ventures LLC, a hybrid Indo-US venture fund. NewPath Ventures has invested in three high tech start ups in Semiconductors, Enterprise Systems and Telecom; in each case significantly leveraging India's growing talent in Chip design, Systems and Software.

Prior to this Vin was the Chairman, President and CEO of Silicon Spice Inc. a start up involved in developing VOIP solutions for Communications market. Silicon Spice was acquired by Broadcom Corporation where he was a Vice-President and General Manager.

Acclaimed as the "Father of the Pentium Processor", Vin was a Vice President and General Manager of the Microprocessor Products group at Intel Corporation where he managed the Pentium, 486 and 386 Microprocessors products generating multi-billion dollar businesses. Prior to his involvement with Microprocessors, Vin was responsible for developing Non-Volatile memory technologies at Intel. He worked on several generations of products and was co-inventor of Intel's Flash memory technology.

After 16 years at Intel Corporation, Vin joined a Microprocessor start up "NexGen", as its Chief Operating Officer. At NexGen Vin was instrumental in redefining Nexgen's processor direction and engineering the merger with Advanced Micro Devices. At AMD Vin became the Group Vice President responsible for all of the Microprocessor businesses and oversaw the launch of K6 - world's fastest windows processor.

In 1993 Vin was named as one of the top 25 executives in the computer industry in America. In 1999 he was named as one of the top 100 most influential Asian Americans of the decade. In 2000 Vin was appointed to serve on US President's Advisory Commission on Asian Americans and Pacific Islanders. Vin serves on the Boards of Satyam, Sasken, Hellosoft, InSilica, Nevis, and Telsima. Vin is a trustee of American Indian Foundation has served as a Board member for TIE--a not for profit organization for entrepreneurs. Vin has co-authored numerous technical papers and patents.

Vin has a Bachelors Degree in Electrical Engineering from Delhi University (India) and Masters Degree in Electrical Engineering from University of Cincinnati.

T. J. Rodgers

Cypress Semiconductor Corp.

T.J. Rodgers is founder, president, CEO, and a director of Cypress Semiconductor Corporation. He is a former chairman of the Semiconductor Industry Association (SIA) and sits on the board of directors of high-technology companies, including SolarFlare Communications, Silicon Light Machines, Infinera, Ion America, Silicon Magnetic Systems, SunPower Corp., and Cypress MicroSystems.

Rodgers was a Sloan scholar at Dartmouth College, where he graduated as Salutatorian with a double major in physics and chemistry. He attended Stanford University on a Hertz fellowship, earning a master's degree (1973) and a Ph.D. (1975) in electrical engineering. At Stanford, Rodgers invented, developed, and patented VMOS technology, which he sold for cash and royalties to American Microsystems Inc. (AMI). He managed the MOS memory design group at AMI from 1975 to 1980 before moving to Advanced Micro Devices (AMD), where he ran AMD's static RAM product group.

Rodgers was the founding CEO at Cypress in 1982 and has since built it into an international integrated circuit supplier with 4,100 employees. Called "a quintessential entrepreneurial company" by *The Wall Street Journal*, Cypress and its management team have received many awards for excellence in financial management. In its October 2001 issue, *Upside Magazine* cited Rodgers as one of the "100 People Who Changed Our World." *Financial World* magazine named Rodgers CEO of the Year in 1996.

Rodgers has testified before Congress five times on issues of importance to the semiconductor industry. His testimony—along with his contributions to a broad spectrum of national and international business and news publications—is available on the Cypress website at <u>www.cypress.com</u> under the "From the CEO" category.

Rodgers speaks regularly to a wide variety of industry and professional organizations. He has been cited for his achievements in support of the philosophy of capitalism and freedom, and for his contributions to a variety of business and entrepreneurial organizations. Outside business, Rodgers has been cited for a broad array of community and philanthropic activities.

Rodgers' personal interests include movies; cooking, especially Italian, French, and Chinese cuisine; collecting wines, notably French burgundies; and tending his three Pinot Noir vineyards, with which he intends to produce wines surpassing those in his collection. He is a member of the Board of Visitors and Fellows at the Department of Viticulture and Enology, University of Davis. In addition, Rodgers is an avid jogger, logging four to six miles daily.

Carl Everett Accel Partners

Carl Everett invests time as an active advisor and board member to new technology companies. During his career at Intel and Dell Carl sponsored many new start up projects inside the companies and also reached outside to champion corporate venture investments such as Rambus (NASDAQ: RMBS) at Intel and the Chinese internet portal Sina.com (NASDAQ: SINA) at Dell. Carl enjoys bringing his experience and industry insights to focus on creating business models and launching products that achieve the number one position in the markets they serve. He has been actively involved with Accel portfolio companies in applications software, high end communications and semiconductor technology sectors.

Carl is currently a member of the Board of Directors at FormFactor (NASDAQ: FORM) and in addition serves as independent Board of Director member at two privately held companies, Cooligy and Topspin Communications an Accel portfolio company.

Carl served as senior vice president of Dell Computer Corporation's Personal Systems Group. He was responsible for worldwide development and marketing of all Dell desktop, workstation and notebook product lines, as well as the strategic technology direction for Dell's award-winning client systems. During his tenure, Dell captured the number one worldwide position in workstations, as well as desktop and notebook personal computers.

Prior to Dell, Carl enjoyed a 20-year career with Intel Corporation leading many of Intel's strategic efforts in setting industry and technology directions. He became an Intel vice president in 1989, overseeing North American sales and later all worldwide sales and marketing organizations. In 1994, he became senior vice president and general manager of Intel's successful Microprocessor Products Group. In that role, Carl oversaw the rapid adoption of Intel's Pentium processor in the marketplace and introduced Intel's P6 technology, the foundation of Intel's product roadmap into the late 1990s. His many accomplishments while at Intel include: the unprecedented support of the Intel Inside brand campaign throughout the Personal Computer industry, the adoption of PCI system bus technology across all PC manufacturers, the launch of major reseller and branding efforts to open up China and other Asian markets to Intel Architecture-based systems, and the creation of the Intel Architecture-based workstation industry.

Carl holds a bachelor's degree in business administration from New Mexico State University. In 1992, he was named NMSU's Distinguished Alumni and in 1997 he was inducted into the university's College of Business Hall of Fame.

Natasha Humphries TechsUnite Silicon Valley

Natasha D. Humphries studied as an undergraduate at Stanford University. As a Senior Software Quality Assurance (QA) Engineer, she has over seven years experience testing US and International software applications, most recently in the mobile device wireless communications industry.

She currently serves on the Steering Committee of the Silicon Valley Chapter of TechsUnite.org, an alliance of technical workers dedicated to promoting and protecting careers of technology workers by raising public awareness of the effects of offshoring of high tech jobs overseas, the need for reform of H1B/L1 guest worker programs, and advocating for workplace rights.

She has testified before Congress in a hearing held by the House Small Business Committee on Oct. 20, 2003 and in a special senate session on the nation's job crisis on March 31, 2004 in Washington, D.C. She has also been interviewed by CNN, NBC, NHK (Japan), National Public Radio, Forbes, Fast Company, NY Times, LA Times, Nightly Business Reports, San Francisco Chronicle, San Jose Mercury News, Silicon Valley Biz Ink and the Silicon Valley/San Jose Business Journal. Humphries has a personal insight into the effects of offshore outsourcing at high-tech companies, and also the challenges that face labor organizations such as Washington Technology Alliance (WashTech) and TechsUnite Silicon Valley in representing the interests of displaced high-tech professionals.

Pratul Shroff elnfochips

Pratul Shroff founded eInfochips in 1994, a leading provider of cutting edge ASIC design services, Embedded systems solutions and IP cores with an Offshore Development Center in India. He is President and CEO.

Pratul spent 10 years working for Intel and Daisy Systems. At Intel, he was a member of the 80186 Intel Processor design team. He was also a founding engineer at Daisy Systems and helped company reach \$125 million in sales and 1200 employees in 5 years of its founding. Pratul also co founded Contech Systems, India.

Pratul holds a Bachelor's degree in Electronics Engineering from BITS and a Master's degree in Computer Engineering from Cornell. He later studied management at Indian Institute of Management, Ahmedabad, India.