IEEE Central Texas Solid-State Circuits & Circuits and Systems Joint Chapter

Fabless I.C. Implementation Workshop

Dr. Rakesh Kumar
President & CEO
TC*x* Technology Connexions

Saturday, August 13th, 2011, 9 am - 5 pm
ACES Avaya Auditorium, University of Texas at Austin, Austin, TX
201 East 24th Street, Austin, TX 78712

Fees

- Advanced registration (prior to 7/13/2011): $75/IEEE member, $100/non member, $15 for student (ID required)
- Regular registration (after 7/13/2011 or at door): $100/IEEE member, $125/non member, $25 for student
- The fee includes all lectures, a complete set of course notes and lunch.

Registration: http://meetings.vtools.ieee.org/meeting_view/list_meeting/6853

Contacts: renhaoxing@ieee.org, rakesh@tcxinc.com

Abstract

There are over 1300 fabless Integrated Circuit companies worldwide, and over 20% of the worldwide semiconductor revenue now comes from fabless companies. While the available infrastructure makes it relatively easy to launch a fabless IC company these days, the success rate of new start-ups remains relatively low.

After providing a brief background and status of the semiconductor industry and the fabless model, this seminar will offer a discussion of the major reasons for the low success rate of fabless start-ups. Then the presentation will provide detailed suggestions in all phases of IC implementation for increasing the company's success probability. One or more case studies/examples will be included. Key success factors are technical, marketing and business considerations such as technology selection, product specification, product positioning, cost optimization, and understanding the customer value chain. Included will be a discussion of design methodologies, process prototyping, production ramp, reliability qualification, customer support, and the like. The workshop will also have a brief discussion of challenges in scaling up the company beyond the first few successful I.C. products.

A panel discussion is being planned to follow the formal presentation.

The author's recently published book, "Fabless Semiconductor Implementation", McGraw Hill, will serve as a reference text.

More details
Registrants are encouraged to send in a list of up to 3 questions/issues they would like addressed in the seminar presentation and/or in the panel discussion at the end of the presentation on August 13. Please send questions to rakesh@tcxinc.com no later than August 9.

A signed copy of the book 'Fabless Semiconductor Implementation' will be available for purchase at a deeply discounted price ($45) to each paying attendee. Please contact the speaker prior to the meeting.

Who should attend
This workshop will provide a valuable overview of the semiconductor industry to the newcomer, and will also serve as a refresher for the experienced professionals. Versions of this workshop have been very useful for both technical, and non-technical staff at established fabless I.C. companies.

- Executives, and professionals at semiconductor companies, as well as professors and students interested in launching, managing or scaling up fabless I.C. companies. Equipment suppliers, fabless ecosystem partners, and start-up companies also find the seminar useful.

- Technical and non-technical professionals, and managers at semiconductor/system companies, suppliers, and graduate students or seniors planning to enter and/or be successful in the semiconductor industry.

Program (August 13, 2011)

Background
- Semiconductor Industry - major directions and trends, "More Moore" and "More than Moore"
- Fabless / asset-lite business model
  - Fabless success
  - "Hot" Product and market drivers
  - Wireless global opportunity examples
  - Technology requirements

Start-up success limiters

IC Implementation Success elements
- Launching a fabless IC company
  - Top reasons for lack of start-up success
  - Understanding the MANY challenges
- The market and the value chain
- Lifecycle of a new IC company
  - Selecting the implementation approach
- Product Positioning and Technology selection
  - Design
  - Process Technology
  - Packaging Technology
- Product Implementation
  - Partner Selection
  - Prototyping
  - Production ramp
- Managing Cost
- Managing Quality
- Program Management
- Scaling the company beyond the first few products
- Future Trends

Panel Discussion

Biography

Dr. Rakesh Kumar is President of Technology Connexions (TC*X* Inc.), a services company which provides management, business and technical 'bridging the gaps' consulting in advanced semiconductor technology, and virtual operations areas. The TC*X* client list includes many emerging companies as well as top 10 semiconductor companies, Intel and Qualcomm. He is also CEO of ei2, a fabless electronics integration company. During 37 years in the semiconductor industry Dr. Kumar has held various technical and executive positions. He was VP & GM of the worldwide Silicon Technology Services business unit at Cadence Design Systems and Tality. At Unisys and Motorola he made technical and management contributions.

Dr. Kumar has authored the book "Fabless Semiconductor Implementation", published by McGraw Hill in 2008. He has also authored numerous publications and patents. Dr. Kumar is a Fellow of the IEEE, and will be the President of the IEEE Solid-State Circuits Society in 2012-13. He serves on the Board of Governors of the IEEE Technology Management Council. Dr. Kumar is a Distinguished Lecturer of the IEEE Electron Devices and Solid-State Circuits Societies. He has chaired and served on the Steering and Program committees of the IEEE CICC (Custom IC Conference) for fourteen years.

He received his Ph.D. and M.S. degrees in Electrical Engineering from the University of Rochester in 1974 and 1971 respectively. He received his B.Tech. degree in Electrical Engineering from the Indian Institute of Technology, New Delhi in 1969. Dr. Kumar received an Executive MBA from the University of California, San Diego in 1989. rakesh@tcxinc.com, +1.858.945.3758.