Douglas G. Fairbairn is President and CEO of Redwood Design Automation, a company he helped found in 1991. Prior to that he was a founder of VLSI Technology, Inc., a pioneer in ASIC and EDA and now a leading ASIC and ASSP company. He served in a number of different roles between 1980 and 1990, including general manager of the ASIC division. He was responsible for founding and managing the EDA efforts now embodied in Compass Design Automation.

Mr. Fairbairn was the founder and publisher of VLSI Design Magazine (originally Lamda) from 1980 to 1983. This publication served a unique role in bringing together the disciplines of EDA, semiconductor design, semiconductor processing, and systems architecture. By doing so, it helped stimulate the cross fertilization of technologies, which was important for the growth of EDA and ASIC during the 1980s.

Between 1972 and 1980, Mr. Fairbairn served as a Member of the Technical Staff at Xerox Palo Alto Research Center. He participated in the design of a variety of innovative systems, including an office terminal system which supported both live video and high resolution computer-generated output. He also served as architect and project manager for the industry’s first portable personal computer, featuring a bit-mapped display, ethernet, 16-bit processor, audio input and output, battery operation, and a number of other advanced features.

Mr. Fairbairn earned bachelor's and master's degrees in electrical engineering from Stanford University. He is a member of the IEEE.

DAC 1994: THROUGH THE LOOKING GLASS

It is June 2000. Welcome to the 37th DAC. The last few years have seen excitement and change in the EDA industry, almost a "re-invention" from the EDA industry of the mid-1990s. And today, at the close of the second quarter 2000, EDA is a successful, thriving industry. However, only a few short years ago, things were very different. What fundamental changes to the EDA business, the products and the design methodology were made in the past decade that led us to the point we are at today?
This keynote address presented from a "DAC 2000" perspective will look back to the year 1994 and present the challenges that companies faced and how the outcome of those challenges affected the success that companies are enjoying today.

In 1994 it started to become clear to many EDA companies and customers that the EDA industry needed to "re-invent" itself. In fact, up to that point, no single company had remained in a leadership position for longer than a few years and profitability continued to decay. Change was imperative for survival.

As we look back, there were several noteworthy circumstances that occurred in the mid-1990s that caused us, as an industry, to change. Specifically, the industry, both vendors and customers, recognized that we needed to redefine the vendor/customer roles and relationship, the way vendors cooperated and competed, how EDA products were sold and the very scope of those products. Further, academia needed to take a new approach if it was going to address the needs of the EDA industry. For example:

• The EDA industry up to the mid-1990s had not learned the real meaning of customer service and quality. Customers still viewed the industry with suspicion and despair. Changes in this area became the fundamental building block for the successful company models we have today.

• EDA vendors spent too much time selling their products. It took too many people too long and required too much effort on the part of both customers and vendors.

• In 1994, the EDA industry had not yet experienced the dreadful price slashing of the other industries, yet as an industry it was barely making profit.

• Academia faced its own challenges including inadequate research funding and preparation of students for a rapidly changing workplace.

• In the area of product innovation, the EDA industry, on average, was offering products that were dreadfully dull. The memory and computing power available, at that time, had increased by 250x in 10 years, yet the way systems were being described and analyzed was archaic. It was clear to many (and ultimately the successful) that a whole new vision of EDA was required that included the high-level description and virtual reality elements seen in many of today's products.

Recognizing these critical issues, the right changes were made. This presentation will include a discussion of what changes started taking place in the mid-1990s that led to the industry "re-inventing" itself and to the ultimate success of this DAC 2000 for customers and vendors alike.

Beyond "glimpses into the past," this keynote will also address the product categories and design methodologies employed in the year 2000, which had their roots in DAC 1994.