

SIEMENS ACQUIRES MENTOR GRAPHICS: WHAT DOES THIS MEAN FOR EDA?



It's finally happening. For years Gary Smith EDA has been forecasting the eventual convergence of the EDA and mechanical design worlds. There wasn't a question of whether it would happen, it was merely a matter of when. The even more important question was whether EDA vendors would seek to expand into mechanical design or whether mechanical design tool providers would break into the EDA market.

Yesterday's announcement of the acquisition of Mentor Graphics by Siemens gives us the answer. Siemens is an industrial conglomerate with an entire business targeting mechanical CAX¹(CAD/CAM/CAE/PLM). The Siemens PLM Software business unit offers a full suite of engineering software for design, simulation and manufacturing applications. It has a strong presence in the automotive, aerospace and defense, industrial, medical and electronics verticals. Its NX product suite is one of the granddaddies of the mechanical CAX software landscape, with a history of over 40 years in the industry. Having gone through several corporate reinventions over the years, the NX products finally became part of Siemens almost 10 years ago.

Finding the Synergies

Mentor is a broad line EDA vendor, whose products span all three major EDA segments of CAE, IC CAD and PCB, as well as having an embedded software division. Of the leading EDA vendors, Mentor has been farthest ahead in creating a product line that addresses design across various parts of the system—semiconductor, PCB, software, and manufacturing. Their thermal analysis, computational fluid dynamics (CFD) and cable and wire harness tools even have some direct crossover with mechanical CAX tools. Mentor's product line is a natural EDA complement to Siemens' similarly comprehensive mechanical design tool suites.

Besides its PLM business unit, Siemens is also well known as a leader in the automotive manufacturing, aerospace, energy, industrial automation, and medical industries. These engineering-intensive industries are prominent customers for Mentor and the Siemens PLM business unit, alike. Plus, as the smallest of the three leading traditional EDA vendors, Mentor is the most affordable of the major EDA players from Siemens' perspective as acquirer. With interest rates below 3 to 5 percent and a low GDP as a signal of economic growth, the timing for such a large acquisition is perfect. By purchasing Mentor, Siemens can immediately gain a strong position in EDA with an end-to-end presence in the electronics design landscape, benefitting stockholders and investors.

¹CAX includes the full spectrum of mechanical design tools—CAD, CAM, CAE and PLM (Product Lifecycle Management).

In the longer term, value to users will be derived from integration between the EDA and mechanical design product suites. Tying together the tools in order to facilitate better sharing of design process and data across different engineering disciplines is a valuable goal toward the vision of a streamlined approach to system-level design. Increased design complexity is a challenge for both electronics and mechanical engineers, especially as the electronics content has been rapidly climbing in all types of end products. Developing design strategies and architectures that take into account all components of the design from the start is the direction design teams need to take. It is vital for their tools to assist them in achieving that goal, getting them out of their individual design discipline silos and helping them to successfully collaborate on product development right from the start.

Impact on EDA Landscape

Where does the Mentor-Siemens acquisition leave the rest of the EDA industry? We at Gary Smith EDA anticipate that this is just the start of seeing the mechanical design and EDA industries coming together. Will there be more acquisitions of EDA vendors by mechanical CAX companies? Potentially. Will EDA providers purchase some of the smaller mechanical CAX vendors? Possibly. Is further consolidation between these two markets inevitable? Almost certainly. These are two fairly mature industries with stable and complementary user bases. Overall, engineering users should benefit from improved integration among the various design tools. However, it is crucial for creators of EDA and mechanical CAX tools to support continuous investment in improving and advancing the underlying tool technologies. These are not stagnant products, but instead demand constant R&D to keep on top of the latest design advancements, particularly the steady march of semiconductor processes.

Expect to see more bridge building between EDA and mechanical CAX. It may take the shape of vendor partnerships, new product introductions or mergers and acquisitions. Most likely, all of those options will play a role. But the warning shot has now been fired to indicate that the days of EDA and mechanical CAX operating as two completely separate industries is coming to an end. The future is system-level design and that future is now.

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