



## Finding new growth in IP

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With EDA software revenues remaining relatively flat over the past few years, it's not surprising that the big EDA firms are trying to find new revenue sources. It's not clear, however, whether investments in intellectual property (IP) are likely to provide much value in the long run.

Mentor Graphics and Synopsys both hope to achieve renewed growth through IP investments, as shown by Synopsys' recent acquisition of Cascade Semiconductor Solutions and Mentor's purchase of Palmchip's IP business. Because reusable IP helps designers cope with the increased complexity of chip design, these investments seem like a natural extension to traditional EDA tools.

However, semiconductor IP is not plug-and-play. Integrating IP into today's incredibly dense geometries involves significant tweaking and customization. In most cases, it's the IP supplier that must collaborate closely with the designer to make certain that the IP works, according to A. J. Sen, CEO of Astro Semiconductor, a supplier of analog IP. In other words, semiconductor IP can be a service-intensive business.

That may be why Cadence doesn't seem as keen as its competition to jump onto the IP bandwagon. Although Cadence executives won't comment on its competition's strategies, Cadence is apparently leery of getting mired in another service-intensive business.

And no wonder. In the late 1990s, Cadence positioned its move into design services as a major expansion strategy. Design services, however, have been less a growth vehicle than a drain on Cadence profits (see the "Cadence Cost of Revenue" graph, below). In the most recently reported quarter, for example, Cadence's design services segment achieved a gross margin of only 36 percent, less than half that of Cadence's software product segment.

Making IP profitable is likely to be similarly difficult for other EDA firms, according to Rich Wawrzyniak, a senior analyst at Semico. "You have to make a commitment to support the IP, keep it updated, build a litigation team for IP violations and devise schemes for IP sharing inside customer sites," he explains. "It's not for the faint of heart."

And even then, IP may not pan out as an investment, because it can't really deliver a simplified design process, according to former Synopsys CTO Kurt Keutzer. "Like RTL [register transfer level] descriptions, IP just doesn't provide the same kind of stable building block that made EDA work at the transistor and gate levels," he explains. "I just don't see IP as a particularly promising area."

There's also a danger that focusing on IP might distract EDA executives from tool building, according to Gary Smith, EDA analyst for Gartner Dataquest. "When Cadence identified design services as its strategic direction, the engineers who built tools felt like second-class citizens," he says. The result was an exodus

of talent that weakened Cadence's pool of engineering talent. "The software engineers saw designing chips as very different from making software for designing chips," he says.

Smith sees a similar exodus developing at Synopsys, in part because of the company's strategic commitment to IP. "Synopsys has typically been better than Cadence at retaining talent, but that's no longer the case," he says. Erach Desai, an EDA analyst at American Technology Research, is similarly skeptical of whether EDA firms have the right skill set to make IP profitable. "A broad-based EDA vendor might do well with generic IP," he says, "but the high-performance, differentiated IP that produces big royalties could prove to be a real challenge."

This is not to say that every analyst thinks investing in IP is a dumb idea. "It's not a distraction from their core business," insists Dennis Wassung, an analyst at Adams Harkness, a financial services company that invests in EDA firms. "Their core market has a lower growth rate and they need a new source of growth."

Microsoft could no doubt find many customers that would pay it to provide programming services or reusable software code blocks. However, "the services business does not enjoy an attractive profit margin," says Rob Enderle, principal analyst for the Enderle Group. "So even if Microsoft were able to 'own' this business, they would lose by winning."

Maybe EDA execs know something that Bill Gates doesn't. If not, EDA firms might find their IP investments falling flat even as they blunt the firms' ability to create the next generation of design tools.

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