

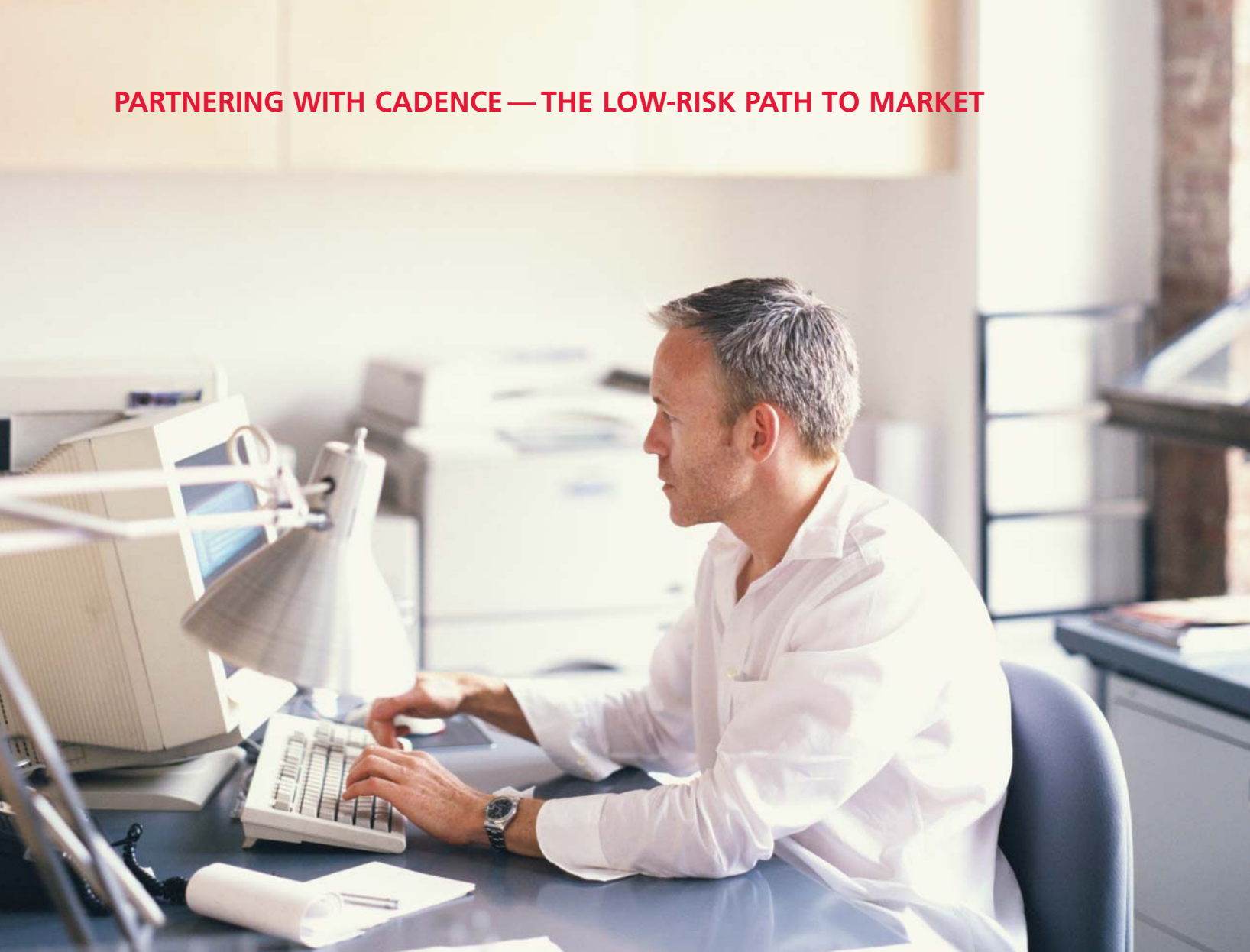


Cadence Engineering Services

Sharpen your competitive edge



PARTNERING WITH CADENCE — THE LOW-RISK PATH TO MARKET



Leading electronics companies today look to Cadence Engineering Services for expertise in:

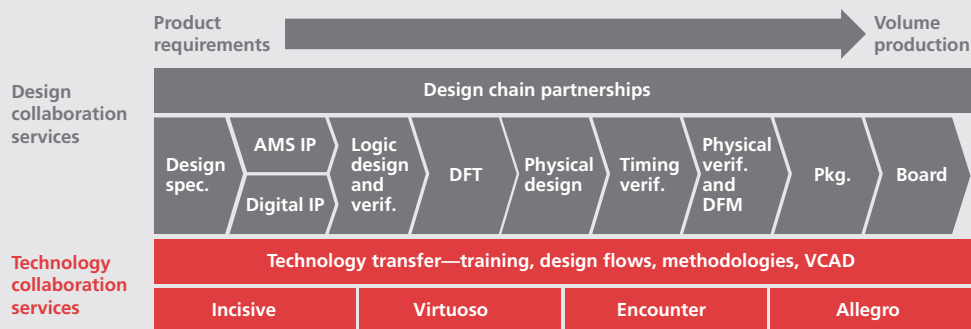
- Advancing to new process technology nodes (90nm/65nm)
- Migrating from ASIC to COT-based design and production
- Analog/RF and digital IC design services with the Virtuoso® and Encounter™ platforms
- IC/board supply-chain management and support
- Implementation, migration, and support of analog/RF/digital/mixed-signal IC design flows and databases
- IC functional verification and emulation with the Incisive™ platform and the Palladium® accelerator/emulator
- IC package and board design with the Allegro® platform

Cadence Engineering Services can support your design team with capabilities that include:

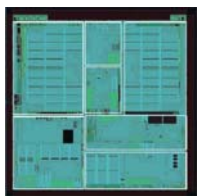
- RTL design, functional verification, RTL to GDSII and analog/mixed-signal design
- Process design kit (PDK) development and device modeling
- Power grid design and signal-integrity (SI) analysis
- High-speed serial interface design (PCI Express, 10G Ethernet)
- Low-power and wireless design
- Collaborative development of customer-specific design flows
- Training courses featuring the latest Cadence tools and methodologies

As engineers create increasingly complex chips and faster systems, they face a series of hurdles. Decisions at each design stage affect the stages before and after it. This means choices made early in the design process often have lasting impacts on performance, size, quality, and yield. Properly handling the interdependent nature of these designs helps to ensure that you make your market window and, ultimately, your revenue and profit goals. Cadence Engineering Services brings a comprehensive approach to the development process—one that balances these interdependent factors to help speed your product to market.

You can rely on Cadence to become a partner in your development process, providing complementary capabilities that allow you to focus your core resources where they add the most value. Recognizing that each organization’s needs are different, we have assembled the industry’s broadest array of offerings and engineering expertise. Choose from among advanced EDA technologies, design knowledge, and manufacturing partnerships. In addition, Cadence has created an innovative services model called Virtually Integrated CAD (VCAD™), which lets you benefit from a customized mix of expertise, tools, and services, tailored to meet your company’s technical requirements and budget considerations—now and as they evolve in the future.



End-to-end capabilities ensure the lowest-risk path to product success. Choose from the industry’s broadest range of proven design tools and methodologies. You can also leverage our world-class design expertise and technology partnerships with key industry leaders.



Internet Switch ASIC pair—Cisco Systems, Inc.

- 5M gates, 8M gates
- Process: 130nm LV TSMC (1P8M + RDL)
- Speed: 250/312MHz (clock); 500MHz (DDR)
- Package: Flip-chip BGA (>1250 I/Os)
- Power: ~10W



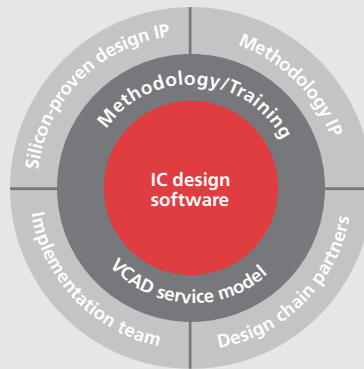
“Cisco partnered with Cadence for design services—and with TSMC for fabrication—to develop two of four complex 130nm LV ASIC design chipsets using a COT model. Cadence created the electrical/physical design of these two SoCs. Cadence and TSMC intimately participated in Cisco’s development of the methodology to deliver these designs that worked at first-pass silicon. By leveraging the expertise from each company, Cisco, Cadence, and TSMC partnered to enable success for two large chips.”

Kamalesh Ruparel, Director, ISBU ASIC Engineering, Cisco Systems

GET TO THE CORE: CRITICAL COMPONENTS OF DESIGN SUCCESS

As electronics makers strive to maintain world-class engineering capabilities, they continually maximize productivity by leveraging the latest advances in EDA technology and design flows. However, it can be a formidable challenge to build new capabilities—or simply upgrade existing ones—while keeping products moving through the development cycle. Taking advantage of new tool features and design methodologies often requires major changes to tool scripts, design flows, and other data. Cadence can help you manage these critical technology transitions, while keeping your design or development environment running at full speed.

You can augment your design resources with a range of capabilities offered by Cadence, the core of which is industry-standard electronic design software platforms combined with proven and reliable design flows/methodologies. These capabilities embody experience gained from serving the needs of hundreds of the world's leading IC companies. Working closely with customers across many diverse applications gives us the ability to offer unique insights into how current design tools and practices can be improved to meet the challenges of your latest designs.



Cadence offers a complete array of design IP, design expertise, and technology partnerships built around a core of industry-standard IC design tools. We also provide innovative methodologies to facilitate design-flow migration, engineering collaboration, and knowledge transfer.



X-stream Media Center Network Interface—Digeo, Inc.

- 15M gates, 100 mm²
- Process: 130nm TSMC, 1.2V
- Speed: 200+ MHz



“Cadence played a crucial role in making the X-stream project a success, and in helping us build the capability to do more of these designs in the future. Our teams developed a strong working relationship during the project, and Cadence proved itself to be a valuable partner.”

Toby Farrand, CTO, Digeo

CADENCE VCAD: A SERVICES MODEL FOR TODAY'S CHALLENGES

To give customers flexible access to the expertise and tools required to overcome tough engineering challenges, Cadence created VCAD. This services model enables Cadence Engineering Services staff to become an extension of your team. It ensures that the engineering support you need is aligned with your business and technical requirements—at each stage of your company's development. By combining an innovative technology infrastructure with a flexible business model, VCAD lets you access just the Cadence expertise and tools you need, while facilitating collaboration with Cadence engineers to ensure meaningful knowledge transfer.

The unique VCAD “collaboration chamber” enables you and Cadence to work together from any location. Cadence developed this ultra-secure web-enabled design environment to allow your engineers to collaborate with Cadence as if all participants are in the same production environment. Each engineer has full visibility into the work of the virtual team, and can share everything from design concepts to command-by-command use of tools in real time.

In this way, your project benefits from the expertise of top Cadence specialists from all over the world, while your designers learn valuable new skills that they can apply to your future designs.

Cadence recognizes that aligning to your end goals is crucial. Today's leading-edge IC designs are far too complex and contain too many unknowns to be handled adequately using traditional fee-for-service contracts. This is another reason we created the VCAD service model. It focuses on creating long-term relationships with shared risks and rewards. It also provides you access to only the tools and capabilities you need at each stage—helping you to maximize the return on your investment in Cadence technologies and expertise.



S5000 Software Configurable Processor—Stretch, Inc.

- 3M gates, 75 mm²
- Process: 130nm TSMC, 1.2V
- Speed: 300+ MHz
- Package: Wire bond, 700+ I/Os



“The Cadence VCAD team did an outstanding job helping us design our first chip and build up our future design capabilities along the way. I found that I could trust them completely. In one instance, we had to significantly change the scope of the project—their approach was about as collaborative and fair as you could get. They were just exceptional people. I would recommend them unconditionally.”

Wayne P. Heideman, VP, Engineering, Stretch



160 Gbps Switch Fabric—TeraChip, Inc.

- 64 channels of 3.125Gbps Cadence SerDes
- 130nm process (8ML + RDL)
- Custom 896 ball FCBGA package



“We are extremely pleased with the results of working with Cadence and TSMC. We chose Cadence because of their ability to get the most out of the silicon and their excellent track record of first-pass silicon success. It’s clear that we made the right decision.”

Micha Zeigner, President and CEO, TeraChip

COMMITTED TO YOUR PROJECT'S SUCCESS

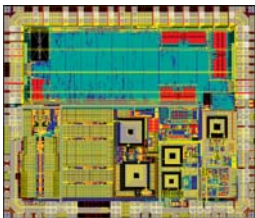
There is no substitute for experience—especially when your company's future is on the line. To ensure your success, Cadence has fielded the industry's premier engineering services organization. This team combines the world's most advanced EDA technologies with expertise gained from helping hundreds of leading companies solve the challenges of nanometer electronic design.

As the world's leading EDA solutions provider, Cadence recognizes that our customers need more than incremental advances in technology. Today's difficult engineering problems require innovative solutions and proven ways to achieve predictable results. Companies also need a strong partner that will be there for present challenges as well as future needs. This requires a long-term view and sharp focus on your ultimate business goals. The people, processes, and technology required to develop winning products represent critical choices and Cadence is committed to helping you maximize your return on these investments.

For more information about Cadence Engineering Services or to hear about our customer successes, visit www.cadence.com/engineeringservices or contact us at engineeringservices@cadence.com

“What Cadence Engineering Services adds is rock-solid design and implementation talent. We're further able to align with customers through the VCAD service model to become, literally, an extension of their team. It's always rewarding to see the successes our customers have and to know we played a part in helping them transform great ideas into real products.”

Tim Henricks, Services Vice President,
Cadence Design Systems



- 900 MHz ZigBee DSSS transceiver — ZMD AG**
- Complete PHY (analog & digital), HW-MAC combined on single-chip
 - Ultra low-power, enabling multi-year battery life



“We're primarily an analog IC company—a really good analog IC company—and we needed a little help to ensure that the digital performance of our RF transceiver for ZigBee™ met the demands of the standard. My team would describe Cadence's contribution to the ZMD44101 project in one word: Critical.”

Kory Brown, VP R&D, ZMD



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