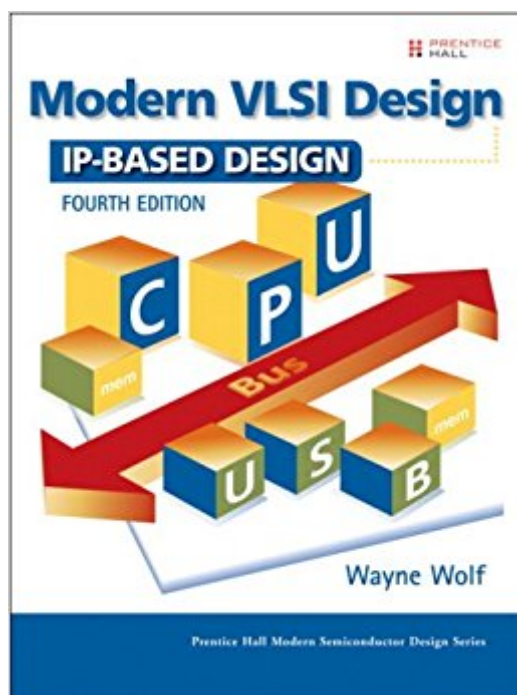


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Modern VLSI Design: IP-Based Design (4th Edition)



Synopsis

The Number 1 VLSI Design Guide—Now Fully Updated for IP-Based Design and the Newest Technologies Modern VLSI Design, Fourth Edition, offers authoritative, up-to-the-minute guidance for the entire VLSI design process—from architecture and logic design through layout and packaging. Wayne Wolf has systematically updated his award-winning book for today's newest technologies and highest-value design techniques. Wolf introduces powerful new IP-based design techniques at all three levels: gates, subsystems, and architecture. He presents deeper coverage of logic design fundamentals, clocking and timing, and much more. No other VLSI guide presents as much up-to-date information for maximizing performance, minimizing power utilization, and achieving rapid design turnarounds. Coverage includes

- All-new material on IP-based design
- Extensive new coverage of networks-on-chips
- New coverage of using FPGA fabrics to improve design flexibility
- New material on image sensors, busses, Rent's Rule, pipelining, and more
- Updated VLSI technology parameters reflecting the latest advances
- Revised descriptions of HDLs and other VLSI design tools
- Advanced techniques for overcoming bottlenecks and reducing crosstalk
- Low-power design techniques for enhancing reliability and extending battery life
- Testing solutions for every level of abstraction, from gates to architecture
- Revamped end-of-chapter problems that fully reflect today's VLSI design challenges

Wolf introduces a top-down, systematic design methodology that begins with high-level models, extends from circuits to architecture, and facilitates effective testing. Along the way, he brings together all the skills VLSI design professionals will need to create tomorrow's state-of-the-art devices.

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The Number 1 VLSI Design Guide--Now Fully Updated for IP-Based Design and the Newest Technologies "Modern VLSI Design, Fourth Edition, " offers authoritative, up-to-the-minute guidance for the entire VLSI design process--from architecture and logic design through layout and packaging. Wayne Wolf has systematically updated his award-winning book for today's newest technologies and highest-value design techniques. Wolf introduces powerful new IP-based design techniques at all three levels: gates, subsystems, and architecture. He presents deeper coverage of logic design fundamentals, clocking and timing, and much more. No other VLSI guide presents as much up-to-date information for maximizing performance, minimizing power utilization, and achieving rapid design turnarounds. Coverage includes All-new material on IP-based design Extensive new coverage of networks-on-chips New coverage of using FPGA fabrics to improve design flexibility New material on image sensors, busses, Rent's Rule, pipelining, and more Updated VLSI technology parameters reflecting the latest advances Revised descriptions of HDLs and other VLSI design tools Advanced techniques for overcoming bottlenecks and reducing crosstalk Low-power design techniques for enhancing reliability and extending battery life Testing solutions for every level of abstraction, from gates to architecture Revamped end-of-chapter problems that fully reflect today's VLSI design challenges Wolf introduces a top-down, systematic design methodology that begins with high-level models, extends from circuits to architecture, and facilitates effective testing. Along the way, he brings together all the skills VLSI design professionals will need to create tomorrow's state-of-the-art devices.

Wayne Wolf is Rhesa "Ray" S. Farmer Jr. Distinguished Chair in Embedded Computing Systems and Georgia Research Alliance Eminent Scholar at the Georgia Institute of Technology. Before joining Georgia Tech, he was with Princeton University from 1989 to 2007 and AT&T Bell Laboratories from 1984 to 1989. He received the B.S., M.S., and Ph.D. degrees in electrical engineering from Stanford University in 1980, 1981, and 1984, respectively. His research interests include VLSI systems, embedded computing, cyber-physical systems, and embedded computer vision. He has chaired several conferences, including CODES, EMSOFT, CASES, and ICCD. He was founding editor-in-chief of ACM Transactions on Embedded Computing Systems and

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