## AUDIO/VIDEO

**3D visualization rides trends, yields views into multidimensional data.** The public has an insatiable desire for fast, realistic games and other multimedia applications. In part to satisfy this demand, manufacturers have evolved the PC into a 3D-graphics powerhouse. Sam Shearman, *Personal Engineering*, 12/98, p. 22, 9 pp.

## BUSES

**Intel opens up switched fabric option.** Intel's Next-Generation I/O (NGIO) moves from today's current parallel-bus limited-drive cluster system to a multi-level-switch multiple-serial-bus approach to large-scale systems. Intel, *RTC*, 12/98, p. 22, 3 pp.

**VMEbus: on target for a glowing future.** What will drive VME into the future? What is in store for this technology that has so well endured the challenges of time? This article takes a look at some of the possible scenarios for VME's future. Jerry Gipper, Motorola; *RTC*, 12/98, p. 63, 3 pp.

**Mercury drops other shoe, ups Raceway clocks, bandwidth.** Mercury Computer's Raceway has become a mainstream adjunct bus for high-speed transfers. Race++, the second-generation Raceway, has increased the crossbar bandwidth and increased system functionality. Mercury Computer, *RTC*, 12/98, p. 93, 2 pp.

## DEVELOPMENT TOOLS

**Trend toward presynthesis tools for analyzing and verifying your SOCs.** To shorten your design cycle, you need tools that will find and fix bugs earlier. Recently, RTL analysis and verification tools have been released by upstart SureFire Verification and InterHDL. Barbara Tuck, *Computer Design*, 12/98, p. 17, 3 pp.

**Getting to the bottom of HW/SW coverification performance claims.** One of the main reasons that HW/SW coverification, as a product, has been so successful is that software execution is much faster than full functional models and hardware models. Michael Stanbro, Synopsis; *Computer Design*, 12/98, p. 65, 3 pp.

## DSP

**High-flying DSP architectures.** New DSP designs aim to slake the growing thirst of multimedia and communications products for processing power. Linda Geppert, *IEEE Spectrum*, 11/98, p. 53, 4 pp.

## IC DESIGN

**RTL techniques for optimizing power in system-on-a-chip design.** Most SOC design teams now regard power as one of their top three design concerns, right after functionality and timing. To manage and minimize power, you need to embrace emerging RTL low-power design methods. Jerry Frenkil and Dave Allen, Sente; *Computer Design*, 12/98, p. 52, 6 pp.

**IBM introduces first mainstream silicon-germanium ICs.** Initially pioneered by IBM as an alternative high-speed IC material for mainframe computing, silicon-germanium is an ideal technology for building many of the key ICs used in wireless communications products. Charles Small, *Computer Design*, 12/98, p. 12, 1 pg.

**System verification from the ground up.** Leveraging the drivers developed for ASIC validation and using a high-level simulator speeds verifying complex ASICs and systems and raises confidence before tape-out. Sherri Al-Ashari, Sun; *ISD*, 1/99, p. 19, 5 pp.

**The low-voltage limbo saga: operating voltages continue to drop.** As densities increase, new circuit techniques and processes come online to reduce operating voltage and power drain. Dave Bursky, *Electronic Design*, 10/22/98, p. 65, 7 pp.

**Developing a custom integrated processor.** Thanks to cooperative efforts with silicon vendors, embedded-system developers can manipulate powerful variables in the price/performance equation that were previously beyond their control. Joe Circello and Sylvia Thirtle, Motorola; *Circuit Cellar*, 1/99, p. 20, 5 pp.

## MISCELLANEOUS

**Packaging design for high-performance ICs.** The high-speed signals in today's ICs won't reach the PCB if early parts of the design cycle don't address packaging design. Wayne Nunn, VLSI; *ISD*, 1/99, p. 28, 4 pp.

**ADSL technologies: moving toward the "lite"—and beyond.** Products supporting second-generation digital-subscriber-line standards will help deliver low-cost megabit Internet and multimedia services to homes and small businesses. Lee Goldberg, *Electronic Design*, 10/22/98, p. 79, 9 pp.

## PROGRAMMABLE LOGIC

**Programmable device or gate array?** The various alternatives for small- and medium-sized logic devices require the designer to weigh the alternatives among field- and mask-programmable chips. Vince Hopkin, American Microsystems; *ISD*, 1/99, p. 36, 4 pp.

## SYSTEM DESIGN

**ACPI power management is coming soon to a portable near you.** Taking the first steps toward industry-standard power management for portables, the Intel-Microsoft-Toshiba Advanced Configuration and Power Interface is still in its early stages. But ACPI promises smarter power management for next-generation portables. Patrick Walsh, *Portable Design*, 12/98, p. 19, 4 pp.

**Multiprocessor communications.** This series looks at the different methods for communicating between embedded processors and examines the various tradeoffs involved. Stuart Ball, Organon Teknika; *Circuit Cellar*, 1/99, p. 14, 5 pp.