# LITERATURE WATCH

## BUSES

*VME...then and now.* VME started with Motorola's Jack Kister, who conceived the Versabus protocols for the 68000 CPU back in 1979 and 1980. Ray Alderman, VITA; *RTC,* 12/96, p. 40, 2 pp.

*Laments of a dinosaur: reflections on the little bus that could...and did.* Three significant factors made VME successful: its European birthplace; dedicated, talented, altruistic people; and a democratic, market-driven character. Pete Yeatman, The Yeatman Group; *RTC,* 12/96, p. 48, 5 pp.

*VMEbus is business.* Now, 15 years after VME was announced, business entities and structures that will address the requirements of OEMs and systems integrators for the end of the 20th century are falling into place. Warren Andrews, *RTC,* 12/96, p. 63, 2 pp.

*VME extensions move the battle lines.* Extensions to the VME64 specification, known as VME64x, provide features that would meet embedded real-time requirements well into the 21st century. John Rynearson, VITA; *RTC,* 12/96, p. 78, 4 pp.

*VME sales top $1 billion: where to from here?* VMEbus has shattered the record for merchant-market board sales and is expected to remain on a steady upward track, despite encroachment from competing technologies. Warren Andrews, *RTC,* 12/96, p. 91, 6 pp.

## IC DESIGN

*Chip patterning: it keeps going, and going, and...* Optical lithography for IC processing was supposed to run out of steam somewhere around 1 micron. Fueled by new equipment and techniques, however, it's giving that battery bunny a run for its money. Jim Lipman, *EDN,* 12/19/96, p. 90, 3 pp.

*Hybrid technology: a step ahead.* Hybrid technology continues its time-honored tradition of edging out monolithic ICs. Bill Travis, *EDN,* 12/19/96, p. 96, 3 pp.

*Low power, density, and better tools propel cell-based ASICs.* Cell-based ASICs are fast becoming the number-one choice for system-level integration, with embedded arrays not far behind. Barbara Tuck, *Computer Design,* 12/96, p. 79, 7 pp.

*Design services spreading with promise of speed and reduced risk.* Design-services providers, now springing up around the industry, can satisfy your desire for faster time to market and reduced risk. Barbara Tuck, *Computer Design,* 12/96, p. 30, 3 pp.

*Tool time for processor design.* HP's workstation group uses automation in designing the PA-8000 microprocessor. Brian Arnold, Hewlett-Packard; *Integrated System Design,* 1/97, p. 18, 5 pp.

*Focus report: floorplanners and physical design tools.* New-breed floorplanners help bridge the gap between layout and synthesis. Steven E. Schultz, Texas Instruments; *Integrated System Design,* 1/97, p. 38, 5 pp.

## MEMORY

*SDRAMs poised for next performance leap.* A directory of high-performance DRAMs. John H. Mayer, *Computer Design,* 12/96, p. 123, 4 pp.

## MISCELLANEOUS

*Windows challenges Unix engineering stronghold.* Windows 95- and Windows NT-based workstations are moving in on turf once firmly held by Unix. Mike Donlin, Tom Williams, Rose Vines; *Computer Design,* 12/96, p. 59, 10 pp.

## PROCESSORS

*Microprocessor designers expand the envelope.* At the recent Microprocessor Forum, the design community was wowed with several new-generation microprocessors. Bob Haavind, *Computer Design,* 12/96, p. 48, 1 pg.

## PROGRAMMABLE LOGIC

*Composing music on the PC: a new gig for reconfigurable computing.* Two FPGAs form the heart of a low-cost digital audio system. The "proof of concept" for reconfigurable computing may put studio-level performance within the reach of garage bands. Fran Granville, *EDN,* 12/19/96, p. 37, 3 pp.

*Performance, price cuts, ISP heat up the CPLD market.* Fast, in-system programmable CPLDs are supported by standard design tools. Their price is nearly two times that of FPGAs. Dan Tanner, *Computer Design,* 12/96, p. 91, 5 pp.

*FPGAs and drop-in modules.* A design for a digital audio-transmission system is aided by existing core modules. Steven C. Durham, Brian J. Warren, CoDesign; *Integrated System Design,* 1/97, p. 30, 4 pp.

## SYSTEM DESIGN

*Cache strategies for microprocessor-based systems.* Over the next few years, backside and inline architectures will become the new standards, while lookaside will be replaced by fast DRAM. Michael T. Peters, Sr., Motorola; *Computer Design,* 12/96, p. 38, 3 pp.

*Multiprocessing issues in large systems.* When building a large multiprocessor system, you have to account for memory architecture, communications efficiency, reliability, and ease of use. Richard Jaenicke, Sky Computers; *Computer Design,* 12/96, p. 51, 3 pp.

*Chip technology fuels more realistic electronic games.* Higher-performance microprocessors and 3D graphics engines are yielding results that approach computer-generated movie graphics. Bob Margolin, *Computer Design,* 12/96, p. 101, 4 pp.

*Memory protection in embedded systems.* A number of 32-bit processors available for embedded systems development are equipped with MMUs. Here's how to use memory management to survive software faults. Dan Hildebrand, QNX Software Systems; *Embedded Systems Programming,* 12/96, p. 72, 5 pp.