

AUDIO/VIDEO

Parallel video servers, a tutorial. This article introduces a framework for the design of parallel video server architectures and addresses three central architectural issues: video-distribution architectures, server striping policies, and video-delivery protocols. Jack Lee, Chinese University-Hong Kong; *IEEE Multimedia*, 6/98, p. 20, 9 pp.

BUSES

Design considerations for high-performance backplanes. Although I/O rates keep pushing the envelope, backplane technology is staying ahead of the game with advances in components, fine-line traces, and multi-layer construction. Ray Cosimano, Cosco Technologies; *Electronic Design*, 5/26/98, p. 294, 3 pp.

DSP

Factors to consider when choosing the right DSP for the job. DSP performance isn't just about MIPS. Application-specific issues can strongly affect a chip's performance. Ian Main, Spectrum Signal Processing; *Electronic Design*, 6/8/98, p. 67, 4 pp.

IC DESIGN

Cell-based ASICs dominate new offerings as processes dip below 0.2 μ . The leading-edge ASIC houses are bringing up processes this year with drawn features smaller than 0.2 μ m, continuing the push to system-on-a-chip functionality evident in the last two generations. Rodney Myrvaagnes, *Electronic Products*, 6/98, p. 33, 4 pp.

Packaging takes center stage in IC design process. In the last few years, performance demands have changed rapidly, bringing lower voltages, increases in current, higher frequencies, and faster rise times to high-end digital and mixed-signal ICs. Michael Lamson, TI; *Electronic Design*, 6/8/98, p. 145, 5 pp.

Low-cost CAE tools. A roundup of EDA software priced up to \$5,000. *Electronic Products*, 6/98, p. 61, 11 pp.

How copper-topped silicon creates faster, longer-lasting chips. By using copper instead of aluminum for an IC's interconnect layers, chip makers can build devices that run faster and use less power. But there's more to the new copper technology than simply replacing one metal with another. Jim Lipman, *EDN*, 6/4/98, p. 48, 3 pp.

MEMORY

Next-generation SRAMs deliver higher performance. New generations of high-performance SRAMs with double-data-rate I/O capabilities or zero-bus latencies are making their way out of the laboratories. These new memory chips promise devices that will keep pace with 350-MHz or faster microprocessors. Dave Bursky, *Electronic Design*, 6/22/98, p. 105, 7 pp.

MISCELLANEOUS

A top-down approach to fuzzy-logic design. Here's a general-purpose method you can use to create a fuzzy-logic design. It can be scaled up or down to meet your needs. Byron Miller, Network Comm.; *Embedded Systems Programming*, 7/98, p. 52, 14 pp.

PERIPHERAL CHIPS

Feeding the terabit monster: gigabit networking and beyond. LAN and WAN technologies struggle to meet a growing demand for bandwidth, giving rise to faster and smarter networks. Lee Goldberg, *Electronic Design*, 6/8/98, p. 111, 9 pp.

PROCESSORS

M•Core: Does Motorola need another processor family? Motorola has added yet another architecture to its potent processor arsenal, but is it really necessary? If so, how does it fit into the company's portfolio? Here's one embedded guru's take. Jim Turley, MicroDesign Resources; *Embedded Systems Programming*, 7/98, p. 46, 5 pp.

The IA-64 architecture at work. Two key architectural features will enable IA-64 compilers to extract instruction-level parallelism. To show how the compiler will use IA-64 instructions, the author uses code fragments from the pointer-chasing problem and from a nested loop with difficult-to-predict branches. Carole Dulong, Intel; *Computer*, 7/98, p. 24, 9 pp.

An Exponential life and death. How a promising microprocessor startup lost its struggle to survive. Dean Takahashi, Dow Jones; *Electronic Business*, 6/98, p. 83, 5 pp.

SYSTEM DESIGN

Mezzanine modules can help board designers simplify their tasks. Though mezzanine modules make design easier, choosing the right architecture may prove difficult, given the array of choices available. Richard Nass, *Embedded Systems Development*, 5/98, p. 20, 3 pp.

CompactPCI starts to roll in motion control. The selection of PC-based motion-control cards has been relatively stable for the past few years, but things are heating up on the development front. Paul G. Schreir, *Personal Engineering*, 6/98, p. 22, 6 pp.

Embedded PCs take on more tasks. PCs are ubiquitous, extending even to embedded systems. But to develop successful applications, developers must overcome numerous hurdles. Jon Gabay, *Embedded Systems Programming*, 7/98, p. 76, 7 pp.

Collective design advances IC packaging. Rising levels of integration make it imperative that IC designers, packaging manufacturers, and the pc-board community work closely to reduce overall cost, enhance performance, and ensure manufacturability of the final design. Dieter Bergman, IPC; *Electronic Design*, 6/8/98, p. 137, 5 pp.