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Microchip drives to 32 bits

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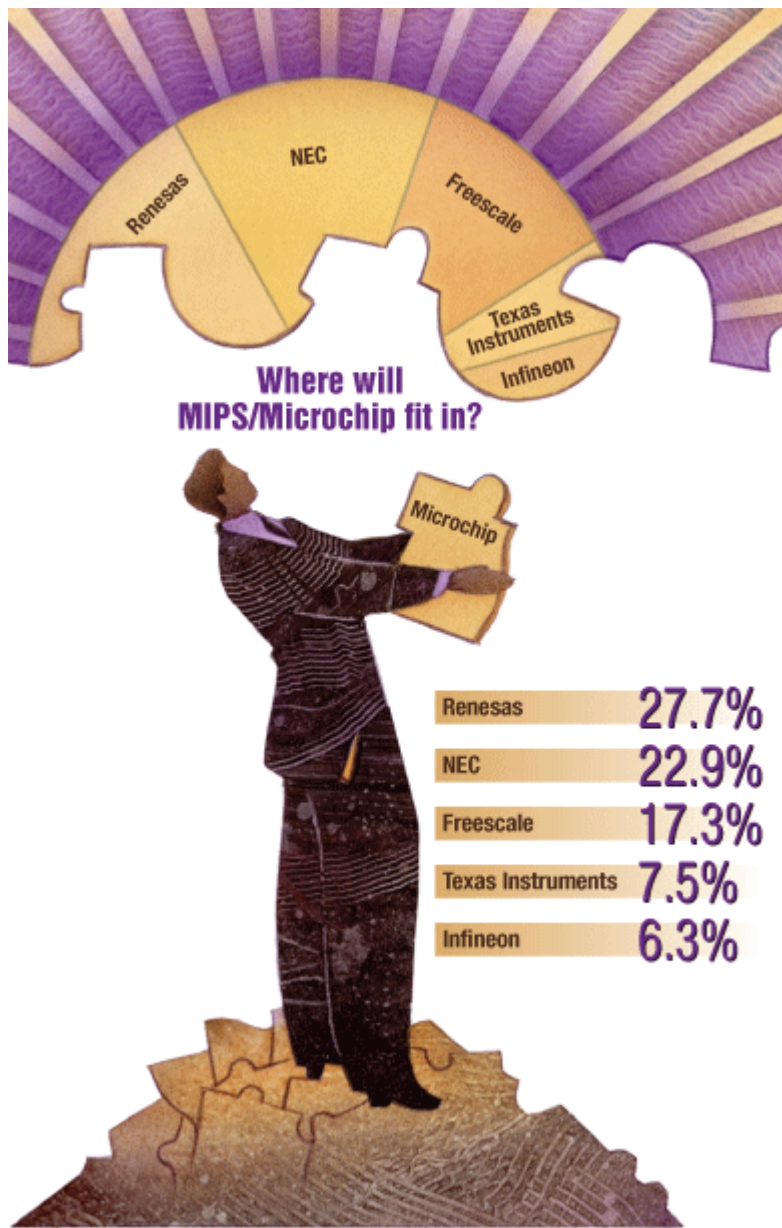
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Microchip Technology Inc., which climbed from 23rd place to first in the 8-bit microcontroller market in a span of 15 years, is set to take on the 32-bit MCU segment with designs based on MIPS Technologies Inc.'s M4K processing core. Microchip will announce the MCU family on Nov. 12, EE Times has learned.

The move opens the door to a new breed of microcontrollers with the potential to unseat traditional ASICs in consumer products such as digital cameras and DVD recorders. "It's a question of time before microcontrollers appear as a powerful engine in multimedia systems," predicted Max Baron, principal analyst and senior editor at the Microprocessor Report. "If system designers can replace an expensive ASIC with a microcontroller and a simple chip on the side, they will do it in a heartbeat."

While the MCU market is notorious for its bloody price battles, few in the industry believe Microchip will prove squeamish. "Microchip has grown to dominate the 8-bit MCU market by providing easy-to-use development systems and offering cost-effective solutions," said Tony Massimini, chief of technology at Semico Research Corp. The chip vendor also has a strong presence in distribution, especially for industrial controls, a factor potentially critical to 32-bit success, he said.



Microchip's decision to go with a nonproprietary MIPS core for its 32-bit MCUs is "a huge win" for MIPS, acknowledged Jack Browne, vice president of marketing at the intellectual-property provider.

Microchip's first 32-bit products aren't the highest performers or the lowest-power alternatives on the market, but Microchip is expected to take advantage of the scalability of the modern MIPS architecture. The company could also potentially leverage the range of analog IP that MIPS recently acquired when it purchased leading provider Chipidea.

Over time, the MIPS-Microchip pairing could shift the power balance in the standard-core-based MCU market. MIPS can offer an alternative to ARM for anyone not already in the 32-bit MCU market. Those who already have homegrown 32-bit controllers could supplement their ARM solutions with MIPS-based MCUs.

Until the Microchip deal, MIPS hadn't pursued the huge MCU market, although licensees Sony and NEC have used its cores in their 32-bit solutions. In contrast, ARM already has several licensees who have been shipping 32-bit MCUs for a few years. "These ARM vendors, in total, are the fastest-growing portion of the 32-bit-MCU segment," Massimini said.

As more customers start using MIPS-based MCUs as multimedia accelerators or co-processors, MIPS may have an advantage over ARM. "There is no need of an architecture license when using MIPS for co-processors," analyst Baron said, whereas ARM charges a licensing fee.

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