NEW MOTO POWERQUICC II COSTS LESS

By Tom R. Halfhill {7/24/00-05}

Motorola has announced a PowerQUICC II processor that sacrifices a few features in return for a 25% lower price, offering cost-conscious customers yet another choice in the growing line of integrated networking chips. The new PowerQUICC II MPC8255 is de-

signed for midsize routers, switches, access concentrators, wireless base stations, and other communications equipment.

The 8255 is pin compatible with the existing PowerQUICC II MPC8260 (see *MPR 9/14/98-02*, "MPC8260 Masters Network Control"). Both chips are dual-core processors, integrating a 200MHz PowerPC 603e core with a proprietary communications processor module (CPM). The programmable-microcode CPM converts communications protocols, strips packets, calculates checksums, and handles other low-level tasks, while the PowerPC core executes higher-level software.

To cut costs, Motorola trimmed a few features from the 8255. Its CPM runs at 100MHz with a 50MHz bus, compared with the 133MHz CPM and 66MHz bus in the 8260. The 8255 has only two fast communications channels (FCCs), compared with three in the 8260, and only one multichannel controller (MCC), compared with two in the 8260. Otherwise, the 8255 and 8260 are identical. Both have a 16K instruction cache, a 16K data cache, a multiport 10–100Mb/s

Ethernet media-access controller, a 155Mb/s ATM segment-and-reassembly (SAR) unit, 256 high-level data-link control (HDLC) channels, a serial peripheral interface (SPI), an I^2C interface, and sundry other on-chip ports and peripherals. They are packaged in 480-pin TBGAs.

Customers who won't miss the few features eliminated from the 8255 will pay only $75 (in 10,000-unit quantities), compared with $100 for the 8260. The original PowerQUICC MPC860 costs $60, so the 8255 fits neatly in between. Motorola plans to sample the 8255 in August and begin production in 4Q00.

PowerQUICC chips have been multiplying like rabbits in recent years, with Motorola breeding more and more hybrids (see *MPR 7/12/99en*, "Motorola Plugs Power-QUICC Gap"). Late next year, Motorola plans to introduce yet another mutation, the 8266, that adds a PCI controller. No other company offers a similarly broad line of intelligently integrated networking chips, and Motorola has been quick to exploit that advantage. ◇