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TENSILICA ADOPTS CORECONNECT BUS

By Tom R. Halfhill {10/7/02-02}

Tensilica has licensed IBM's CoreConnect on-chip bus and is introducing a bus bridge for its Xtensa V customizable processor. The bridge allows system-on-chip (SoC) developers to integrate CoreConnect-compatible intellectual property (IP) with Xtensa processor cores.

The Xtensa architecture has a configurable processor bus that can be 32, 64, or 128 bits wide, according to the requirements of the customer's design. It doesn't directly support any industry-standard bus interfaces, so developers usually create their own interface from scratch or use gaskets to adapt the bus to a de facto standard such as AMBA. The new CoreConnect bridge can eliminate that effort and make it easier to attach readily available peripheral IP to an Xtensa processor. Developers can also use the CoreConnect bus to link together several Xtensa cores in a multiprocessor SoC.

The CoreConnect license reflects Tensilica's growing relationship with IBM. Earlier this year, Tensilica became the first Platinum member of IBM's Blue Logic IP Collaboration Program, an association of IP vendors. IBM has qualified the Xtensa core in its Blue Logic ASIC design program for fabrication in IBM Microelectronics' 0.13- and 0.18-micron

CMOS processes. The Platinum rating means IBM and Tensilica have at least one customer design in volume production using the Xtensa core.

IBM announced CoreConnect in 1999 after using a proprietary version of the bus in ASIC designs for about two years (see *MPR 7/12/99-03*, "PowerPC 405GP Has CoreConnect Bus"). To push CoreConnect as an informal industry standard, IBM generalized the bus architecture for external use, made it more CPU independent, and began freely licensing it to other companies. Bridges are available to adapt CoreConnect to other on-chip buses, including AMBA and ZSP. There are currently 38 CoreConnect licensees, including Analog Devices, Cadence, Ericsson, Lexra, LSI Logic, Lucent, Mentor Graphics, Nokia, Siemens, and Synopsys. There are no up-front licensing fees or royalties for using CoreConnect. ♦

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