

ARM Completes Prototype Testing Of ARM7TDMI Processor Based On ASPLA 90-nm

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ARM today announced that it has achieved sample production of the ARM7TDMI core verification chip jointly developed with the Semiconductor Technology Academic Research Center (STARC). The pilot production uses the 90-nm generic process shuttle (Star Shuttle) of Advanced SoC Platform Corporation (ASPLA) and operational testing has been completed in an ARM environment.

ARM can now make the ported macrocell available to its licensees. The industry-leading ARM7TDMI core (hard macrocore) optimized for the 90-nm process will be available to Partners conducting trial testing and verification of system-on-chip (SoC) products using ASPLA's 90-nm generation standard process line. It can provide an environment that substantially reduces a corporations' development turn-around time (TAT) compared with using conventional individual porting.

STARC and ASPLA are joint research groups consisting of Fujitsu, Ltd., Matsushita Electric Industrial Co., Ltd., NEC Electronics, Inc., Renesas Technology Corp., Toshiba Corporation, and other corporations. STARC and ASPLA worked jointly on developing the architecture of a 90-nm SoC technology platform(*1), and as a result, have expanded the public use of the shuttle service for the pilot manufacturing and verification of intellectual property (IP) and SoC technologies

This project was carried out through the joint efforts of numerous companies. ARM provided the ARM7TDMI processor design, layout and verification environment. STARC supplied a 90-nm library conforming to recommended design rules, and NEC Microsystems, Ltd. provided the design for the test chip. Working in conjunction with the National Institute of Advanced Industrial Science and Technology (AIST), ASPLA helped develop and standardize leading-edge SoC design and manufacturing technology. Based on those results, the 6-layer metal generic process was applied to the sample production of the ARM7TDMI processor. Fabricating the first silicon of this chip proved the readiness of the 90-nm SoC technology platform developed from fiscal 2002 by STARC and ASPLA. In addition, STARC and ASPLA have been able to build up a total verification example of a pilot manufacturing shuttle service support environment, including the SoC design flow, library, and trial production line

Since announcing the start of their joint verification project in September 2003, ARM, STARC, and ASPLA have closely co-operated. As a result of the completion of the verification announced today, companies who use ASPLA's 90-nm process to explore the development of products can now start using the ARM7TDMI processor, and this is expected to accelerate product development.

*1 "SoC technology platform" is a common foundation technology for the SoC development advocated by ASPLA and STARC. It is a generic term for standard manufacturing technology, standard design technology, and a trial production shuttle service (a shared trial production service enabling the chip designs of multiple users on a single wafer, or various types of LSI chips to be used at the same time).

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