

DSP Brings Flexibility To Wireless Infrastructure

To bring a new level of flexibility to 3G wireless infrastructure equipment while cutting system costs, Analog Devices has unwrapped a derivative of its TigerSharc DSP architecture. The ADSP-TS101S provides both the processing and I/O throughput necessary for the chip-rate and symbol-rate tasks that are required to handle voice and data channels, respectively.

To accomplish these goals without resorting to FPGAs or ASICs, the ADSP-TS101S implements chip-rate and symbol-rate optimized instructions. Plus, it's bundled with layer-1 software for performing the physical-layer algorithms of 3G communications.

"By supporting both chip- and symbol-rate processing tasks as well as physical-layer processing on a single DSP architecture, the ADSP-TS101S delivers an unparalleled combination of performance, flexibility, and lower cost to 3G infrastructure systems," says Andy McCann, ADI's marketing manager for infrastructure DSPs. "It allows

for quick migration between major 3G modes that will be deployed in different countries."

Traditionally, node B basestations partition chip-rate and symbol-rate processing between hardware and software, leading to poor resource utilization. As a result, it requires fast, expensive external memory, thereby adding to system cost. Unlike other alternatives, TigerSharc's large internal memory doesn't require external memory.

The ADSP-TS101S provides 6 Mbits of on-chip SRAM, 14 DMA channels, two computational blocks, a sequencer, a cluster bus for interprocessor communications, four link ports, and clocks at 180 MHz. Implemented in 0.13- μ m CMOS, it comes in a plastic BGA. It dissipates less than 1 W at 180 MHz.

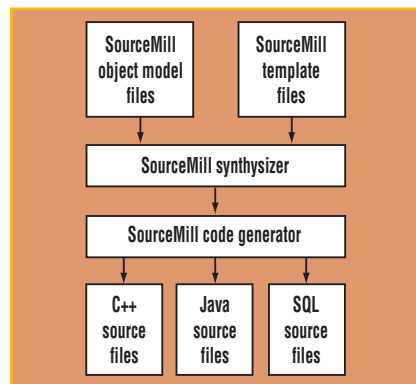
Sampling now, the ADSP-TS101S is slated for production in the first quarter of 2002. It costs less than \$100 in 25,000-unit quantities.

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Code-Synthesis Tool Targets Multiple Languages

Mixing programming languages like Java and C++ is common with embedded systems. But sharing interfaces and objects between environments or systems can wreak havoc on project productivity, maintenance, and manageability. Cleanscape's SourceMill code-synthesis tool facilitates rapid development by using template files to indicate how object definitions are converted into source code.



SourceMill's code generation is useful in single-language development environments as well. Its object definition language improves on object support in the target programming language.

This tool has its own object definition format. Yet it also can generate source files for most popular languages out of the box, such as Ada, C, Java, Rogue Wave Template classes, SQL, Smalltalk, and various flavors of C++. Custom templates can be created and used to generate source files for company-specific information like copyrights.

SourceMill is available for purchase on Windows 95, 98, NT, and 2000, in addition to Unix and Linux. Its software includes the SourceMill code-synthesis engine, sample and production templates and object models, and utilities for generating and modifying object models and templates. A single-user license costs \$1290.

Cleanscape Software International Inc., 2231 Mora Dr., Ste. E, Mountain View, CA 94040; (650) 864-9500; fax (650) 864-9500; www.cleanscape.net.

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Linux Development Suite Delivers Broad System Support

Embedded open-source developers have more choice with the Red Hat Embedded Linux Developer Suite. This suite supports MIPS, SuperH, x86, PowerPC, and ARM/StrongARM/XScale processor architectures using the latest 2.4 Linux kernel.

The suite includes a new GUI configuration tool that provides fine-grain configuration of the targeted environment. It also features Red Hat's Red-Boot embedded bootloader/BIOS for standardized debugging and bootstrap support, as well as the latest version of Red Hat Linux RPM packages optimized for cross development.

Its GNUPro cross-development tools for all architectures are based on gcc3. Cross-platform development and migration is facilitated with glibc 2.2 libraries for all architectures.

The Embedded Linux Developer Suite is available immediately. Contact Red Hat for pricing and support packages.

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