DSPs

Transtech DSP announces the TS-P36, the first multi-DSP board to use Analog Devices' new TigerSHARC&#153 DSP. The TS-P36 features four DSP's and 128Mbytes SDRAM, coupled to a Xilinx Virtex&#153 FPGA for algorithm acceleration and a fast 64-bit/66MHz PCI/PMC interface for high-speed data input/output.
The TigerSHARC DSP, is Analog Devices' 3rd Generation floating-point DSP and is well suited to next generation applications such as telecommunications infrastructure. The TigerSHARC DSP can freely mix 8, 16 and 32-bit data types natively on one device, enabling parallel operations and efficient data I/O to be implemented while, at the same time, simplifying application development. The benefits for telecommunications applications, might be to incorporate 8-bit data streams commonly used by Viterbi decoders, the increased precision of 32-bits for echo canceller algorithms and 16-bit data types to support equipment infrastructure; all on the same common platform. The TigerSHARC DSP also has 6Mbits of onboard zero wait-state SRAM enabling large amounts of program or data to be stored on chip for faster data processing. Four bi-directional link ports allow direct data transfer between TigerSHARC DSPs, enabling data to be streamed around the system easily for optimal performance. Link ports provide a simple mechanism to smoothly scale the number of DSPs within the system without relying on bus-based structures.
The TS-P36 has a Xilinx Virtex FPGA (XCV300) that can also be used to provide a high-speed digital interface with the choice of I/O configurations. Since one of the key advantages of a DSP is its ability to move large amounts of data quickly, high-speed input/output ports are essential for efficient operation so as not to starve the DSP of data or cause it to wait unnecessarily. The FPGA can also be used to further accelerate algorithms and ensure that even more DSP processing is available by off-loading compute intensive tasks as often found with decoders.
Software support is provided through VisualDSP&reg, a product that includes C and C++ compilers, assembler, debugger and optimized libraries. Development host support is provided under Windows with run-time support for Linux based systems.

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