



## Sundance-Leaders in DSP and FPGA Solutions!

eNews

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### The Road to Beijing

With the 2008 Olympics just around the corner, athletes from around the world are heading to China. Conveniently for Sundance, the Road to Beijing starts at our Offices in [Shanghai](#) and represented by the SMT351T, our highest performing FPGA based modular solution ever, we are going for gold in 'Track and *Field Upgradability!*'

The recently announced [SMT351T](#) features the Virtex-5 SX95T device that includes 640 Xilinx XtremeDSP slices capable of delivering up to 352 GMACs of DSP performance. The FPGA has direct access to 2GBytes of DDR2 RAM and a configuration PROM enables the module to be used stand-alone.



But what makes the SMT351T really stand out from the crowd is its new benchmark in forwards and backwards compatibility for DSP-FPGA field upgradability. The SMT351T is pin compatible and functionally identical to predecessor Sundance modules stretching back more than a decade. It conforms to the Texas Instruments Module (TIM) standard and provides a fast and low risk route to adopting Virtex®-5 technology in a modular DSP-FPGA environment.

According to Tim Erjavec, director of embedded and DSP marketing at Xilinx, '...because the SMT351T is compatible with previous Virtex generations, customers can easily migrate their designs to the latest FPGA devices from Xilinx.' Enough said!

To see how you can quickly and easily migrate to the latest DSP-FPGA technology [click here](#).

### Supercomputing scales new heights

Not content with Olympic Gold, Sundance continues to scale new heights with its breakthrough **RASS** - Reconfigurable, Accelerating, Scalable SuperComputing solution.

To meet industry demand for energy efficient, extreme [parallel processing](#), RASS uses the very latest Virtex 5 FPGAs that include 640 Xilinx XtremeDSP slices capable of delivering up to 352 GMACs of performance. Sitting on a carrier board, multiple FPGAs can be connected via a Rocket Serial Link (RSL) I/O interface and the overall architecture is truly modular with over 20 different daughter card combinations available.

Interfacing is a breeze for RASS. The [SMT148-FX](#) carrier board offers SATA, USB 2.0, FireWire, 1Gigabit Ethernet, RS485, RS232, LVDS interfaces. It also contains a Virtex-4 FX60 FPGA that includes two PowerPC cores that can be used as interface controllers, leaving the FPGAs free for extreme coprocessor acceleration.

To simplify programming RASS is supported by high-level design tools from [The MathWorks](#)™ and [Xilinx](#). RASS is compatible with [Diamond](#)® from [3L](#) to offer an integrated development environment for the FPGA and PowerPC via an [Eclipse](#) front-end.

And because RASS is much more energy efficient than processor only solutions, it has much lower cooling requirements and contributes to reducing the overall carbon footprint of IT.

Overall it's a win-win solution that makes others 'green' with envy!



### Outside of the Box

Thinking outside of the box is one of those phrases that is professed by many, but practiced by few. When Peter Robertson from 3L and Sundance's Flemming Christensen made waves in the [multi-core design debate](#) they argued that the conventional shared memory approach was flawed.

"People want to take code written for uniprocessors and magically turn it into something that will run on multiple processors, and can be made to run as fast as you like just by throwing more processors at it." As Robertson put it, "this is nonsense."

With the challenge of multi-core design remaining the Holy Grail of Computing and Computer Science please join Peter and Flemming outside of the box, and above the parapet. Intel and AMD may follow... [or perhaps they already have?](#)



**3L** - Thinking outside the box

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