Press Release

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FOR IMMEDIATE RELEASE
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Multiprocessing, Magnetism and the Milky Way

Scientists at Canada's National Research Council Use the 3L Diamond Multiprocessor Tool-Suite to Dramatically Reduce the Design Time of a Broad-band Spectroscopic Data Acquisition System Implemented on Sundance Multiprocessing Hardware

EDINBURGH, UK - 19 January 2009 - 3L, the Multiprocessor Design Company, today announced that a new broad-band spectroscopic data acquisition system has been built and deployed for the 26-m radiotelescope of the Dominion Radio Astrophysical Observatory (DRAO) in Penticton, Canada. Designed using 3L's Diamond multiprocessor tool-suite and based on multiprocessing hardware from Sundance, the high sensitivity system developed at DRAO has an instantaneous bandwidth of 500 MHz and a spectral resolution of 2048 channels. The phase relation of the two input signals is measured in real-time and using 3L Diamond, the instrument design was completed in only 18 months, allowing scientists to deploy the data acquisition system earlier than would have otherwise been possible.

Radio astronomers in Penticton are using the instrument to investigate the magnetic field in the interstellar medium of our Galaxy. The large bandwidth along with spectral capabilities enabled by multiprocessing is allowing them to measure the direction and field strength of the magnetic field of the Milky Way. Based on the NRC system, DRAO astronomers are now leading a project to utilize this method with other radiotelescopes around the globe including the 100-m Effelsberg telescope in Germany and the 64-m telescope at the Parkes Observatory in Australia.

"The detailed study of magnetism in the Milky Way is made possible by new developments and technologies in radio astronomy including new wide-band antennas, wide-band digital receivers and new data analysis tools," said Maik Wolleben, Covington Fellow at the Canadian National Research Council. "By coupling the 3L Diamond tool-suite with modular hardware from Sundance we were able to quickly develop a cost effective, very high performance multiprocessing solution and use it years ahead of expectations."

The NRC design was completed using 3L's Diamond multiprocessor tool-suite with the hardware consisting of a Sundance SMT310Q quad site carrier card populated with four daughter modules hosted on TIM (Texas Instruments Module) sites. A C Series TI DSP mounted on the SMT395, two large Xilinx Virtex FPGAs on the SMT398 and a Dual Channel 1GHz, 8-bit ADC on the SMT391. The ADC samples two input channels at 1 GHz which are then sent to the FPGAs for Fast Fourier Transform.

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At the heart of 3L's Diamond tool-suite is a multiprocessor model that provides a straightforward and powerful way of developing multiprocessor applications. 3L Diamond helps the designer create tasks, self-contained blocks of code, which communicate with other tasks on DSP, FPGA or GPP architectures. The low latency inter-processor communications and synchronization between the tasks are automatically created by 3L Diamond.

Commenting on the project, 3L's managing director Peter Robertson said, "we were delighted to be selected for this ground-breaking project and to help create a system that is driving fundamental understanding. By using Diamond, the NRC designers were able to leverage our pre-packaged integration with the Sundance hardware and focus their effort on delivering the spectroscopic DAQ in record time."

3L Diamond is available from 3L Ltd and Sundance, with processor licensing by volume and type. More than 50 Sundance multiprocessor modules are supported by 3L Diamond and for more information visit www.3L.com or contact 3L@3L.com.

About 3L
3L Ltd is The Multiprocessor Design Company that provides the design tools, software and IP that is used by application developers to create multiprocessor systems that feature DSP, FPGA & GPP. Its Diamond multiprocessor tool suite is used by some of the world's leading electronics companies and provides an easy to use, flexible environment where very high performance processing technologies can be quickly leveraged and applied to demanding signal processing applications. Founded in 1987 the company's products are used in the telecom, video and signal processing, and defense markets. It is headquartered in Edinburgh, UK, and operates internationally. For more information visit www.3l.com.

About Sundance
Sundance designs, develops, manufactures and markets internationally high performance signal processing and reconfigurable systems for original equipment manufacturers in the wireless and signal processing markets. Leveraging its multiprocessor expertise and experience, Sundance provides OEM with modular DSP and FPGA-based systems as well as data acquisition, I/O, communication and interconnectivity products that are essential to multiprocessor systems where scalability and performance are essential. With over fifty different modules and carriers for PCI, cPCI VME and Stand Alone platforms, Sundance is a solution provider to semiconductor, pharmaceutical and factory automation industries. Sundance, founded in 1989 by the current directors, is a member of the TI Third Party Program, Xilinx Alliance Partner and MathWorks' Connection programs. For more information visit www.sundance.com.

About Kane Computing Ltd.
Kane Computing Ltd (KCL) (www.kanecomputing.co.uk) is a specialist consultant and reseller of advanced computing technology, development systems and software with particular emphasis on Digital Signal Processing (DSP) from Texas Instruments and FPGA from Xilinx and Altera. KCL is the UK Distributor for Sundance and a number of other hardware suppliers and is also a Texas Instruments Third Party Partner for development tools and consultancy. KCL has a policy of continual improvement and operates its business in accordance with the requirements of ISO9001:2000. KCL is also approved under the Investors in People programme.

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