

## **New UK Distributor for Impulse C to FPGA Compiler**

**8<sup>th</sup> March, 2010, Northwich, Cheshire** – Kane Computing Ltd (KCL) today announced the signing of an agreement with Impulse Accelerated Technologies (Impulse) to resell their software-to-hardware FPGA compilation and verification tools in the UK and Ireland.

The Impulse C-to-FPGA tools allow application developers to quickly create custom accelerator and filter modules in C, increasing productivity for developers of advanced video and image processing, DSP, and hardware-accelerated computing applications. Users of Impulse C report saving as much as half their design time using C when compared to using HDL methods.

Products and services KCL will be supporting include Impulse C-to-FPGA, Impulse CoDeveloper, Impulse CoValidator, Impulse libraries including math.h and image processing libraries, Impulse IP and Impulse engineering and training services.

Impulse provides software-to-FPGA solutions for embedded and high performance computing. Impulse users write or import C-language algorithms, then can use interactive methods to re-factor their code, explore alternative optimisations, and partition applications to achieve performance goals. The Impulse C-to-FPGA compiler converts C-language applications to either VHDL or Verilog compatible with popular FPGA synthesis tools including Xilinx ISE, Altera Quartus, Synopsys Synplify and Mentor Precision. The generated HDL is also compatible with Mentor ModelSim and other HDL simulators.

Impulse has been deployed successfully dozens of times in the UK since 2004 by industrial, military and university research teams stretching the boundaries of FPGA-based parallel processing. In these designs the FPGAs have been used to offload microprocessors and DSPs. The offload has typically entailed design elements that lend themselves to parallelization by which the total throughput is increased, in a lower power, lower clock speed processor. For designs such as real time image, signal or data processing, 10 – 100x is often achievable in weeks.

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“Being able to supply such a fast and efficient set of tools to our FPGA developer customers is very important to us and to them.” Said Richard White, Managing Director of KCL, “Particularly as we already work with a number of Impulse’s FPGA platform partners including GiDEL and Sundance.”

“We are very pleased to have Kane Computing supporting the Impulse C users in the UK” said Brian Durwood, Impulse CEO. He continued. “We have steadily seen UK Impulse C designs get more complex, and have noticed trend towards Impulse delivering working applications in commercial hardware. Both of these shall benefit from the strong local support Kane can offer.”

Impulse CoDeveloper is for software application developers and FPGA designers seeking a faster path to FPGA hardware. CoDeveloper is ideally suited to image and video processing, digital signal processing, data compression/encryption and hardware accelerated computing. The Impulse C compiler is a high-level synthesis tool that is based on standard ANSI C. The Impulse tools enable highly interactive, software-oriented design methods and are compatible with a wide variety of FPGA based platforms.

CoDeveloper 3.6 enables embedded co-processing with the newest Xilinx MicroBlaze and PowerPC processor cores. CoDeveloper decreases design risk by allowing applications to be verified at a higher level using C debuggers. CoDeveloper also allows users to verify the generated hardware via an automated C-to-HDL test bench conversion option that is compatible with Mentor ModelSim and other HDL simulators.

“Compatibility with standard C and VHDL is increasingly important to developers of embedded systems,” said Brian Durwood, Impulse co-founder. “The biggest body of intellectual property is in standard C, so maintaining compatibility with popular C-language tools is the key to increasing reuse and portability of custom hardware modules.”

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Impulse CoDeveloper Version 3.6 allows user of Xilinx Virtex-6 and Spartan-6 FPGAs to:

- Rapidly create, verify and deploy custom filters for video, DSP and other applications using supplied templates and wizards.
- Design and deploy royalty-free FPGA algorithms to process data with high throughput, using both automated and programmer-specified parallel optimisations.
- Preserve application compatibility with Visual Studio, Eclipse and GCC and other common C-language tools.
- Automatically generate I/O including streams, signals, memories and registers.
- Automatically create processor interfaces using PLB, APU and FSL bus interconnections.
- User hardware/software co-design methods to accelerate PowerPC and MicroBlaze software applications.
- Generate HDL test benches compatible with ModelSim and other HDL simulators from C code.
- Target popular FPGA development platforms, including boards and systems from Xilinx, Avnet, Cray, Curtiss-Wright, Digilent, The Dini Group, DRC Computer, Dynalaith, Faster Technology, Nallatech, Nu Horizons, Opal Kelly, PLDA, Pico Computing, SGI, Sundance DSP, Tokyo Electron Devices, VMETRO and others.

### **About Impulse**

Impulse Accelerated Technologies ([www.ImpulseC.com](http://www.ImpulseC.com)) provides C-to-FPGA tools, training and custom hardware/software solutions for automotive, defense, industrial and financial customers worldwide. Impulse tools are used for vision systems, face and object recognition; video feed analysis for national security and automotive applications. Impulse customers develop FPGA-based products as well as targeting ASIC deployments. Impulse products are in use at over half of automotive suppliers and eight of the world's top ten defense contractors.

### **About Kane Computing**

KCL ([www.kanecomputing.co.uk](http://www.kanecomputing.co.uk)) has been providing Image Processing, DSP and high performance computing products for use in industry, education and research since 1987 and is a Texas Instruments Third Party Partner specialising in consultancy and advice on TI development tools/platforms and image processing applications. KCL have extensive knowledge and experience of providing video compression solutions for many industries particularly for digital video security and high quality broadcast applications. KCL has a policy of continual improvement and operates its business in accordance with the requirements of ISO9001:2008.

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