NEWSLETTER

Bluewater Systems

Spring 2005

Welcome

Welcome to Spring! No doubt the warmer weather is as welcome where you are as it is to us here at Bluewater.

This month we can update you on a number of developments. We have successfully completed a major ARM-based product development for NEC (details below). We have appointed a new General Manager and Sales Manager (see back). As part of our committment to ARM in education we have developed Unikit DIP, a tiny DIP-based module which makes it easy for people to get into ARM. We have also updated the Rig platform to release Rig 100 which adds PCMCIA and Mini PCI.

ARM activity in the region is growing dramatically at the moment. Some 1.3 billion ARMs went out in 2004 and we know the designs for many millions of these were done in New Zealand and Australia. If you have an ARM success story to publish we would love to hear from you.

Bluewater Completes Major NEC project

During 2004 major corporate electronics player NEC wanted to rapidly develop a replacement for the ageing Magnetic Tape Units (MTUs), used in Telephone Exchanges for data storage back-up. ARM technology experts Bluewater Systems were entrusted with the development of a solution. The result was a modern, cost-effective digital storage unit (DSU), designed using 'Snapper', Bluewater's revolutionary ARM-based System Module with an integrated FPGA.

For NEC, the use of 'Snapper' was crucial to the success of the project. Leonard Dench, Group Manager, Carrier and Provider division at NEC explains, "We were looking for a total ubiquitous data storage unit that could interface with three types of NEC exchange and be delivered within nine months. But the options we examined could not meet the requirements of one of the older exchanges. Bluewater Systems, however, could give us one box to work with three types of exchange, within our time constraints, saving us development time and money."

NEC is rolling out 178 units to exchanges throughout New Zealand with further global sales expected.

www.bluewatersys.com/corporate/news

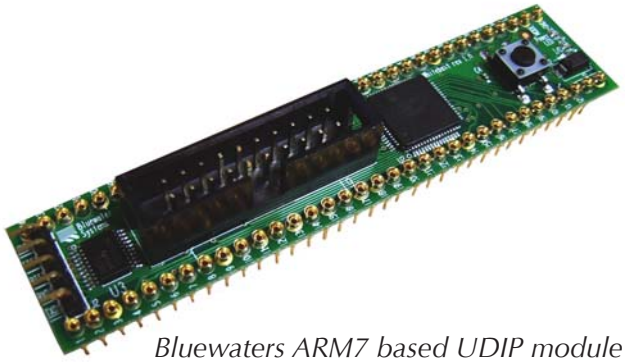
Simon Glass and NEC's John Holloway show o ff the Bluewater developed NEC DSU

Bluewater Releases Unikit DIP

UDIP has been produced specifically for use in Universities and low end commercial applications, and offers a low cost introduction into the world of ARM.

UDIP is an Single Board Computer Module designed to familiarise people with the Philips LPC2129, which is a 16/32bit ARM7 based CPU with 16kB of SRAM and 256kB of Flash memory. The 68-pin DIL package of UDIP maps all available microcontroller pins to allow easy access to on-board peripherals for breadboard testing and experimentation.

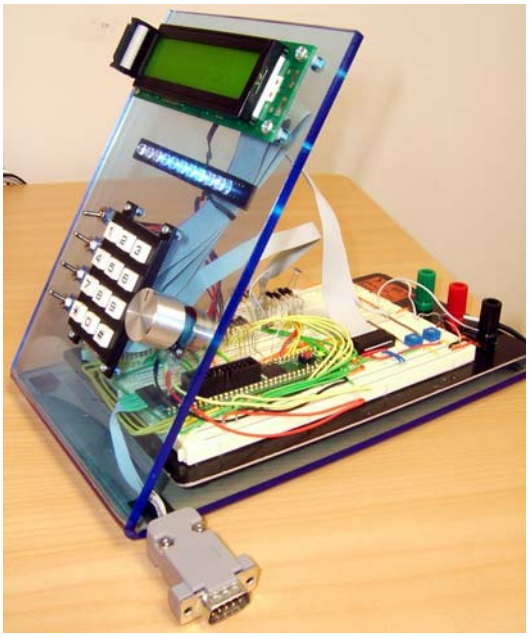
UDIP requires a 3-15V supply and comes complete with a RS-232 transceiver, a serial port header with an on-board LED, a JTAG socket, a tactile reset switch and a power LED. UDIP also has two power supply modes for noise control and allows for In-System Programming (ISP) using the on-chip serial bootloading utility or through a JTAG development tool (such as a RealView ICE unit or a wiggler).



Bluewaters ARM7 based UDIP module

The flexibility of UDIP is obvious through a demo program that successfully incorporates a 40x2 LCD with 2 potentiometers for adjusting screen contrast and back-light intensity, a 12-key numeric keypad, ADC control via a potentiometer, a 10-segment LED display and 4 switches for toggling functionality. There are still various port pins available for peripherals such as a photo-resistor (via another ADC channel), an IR sensor (via an external interrupt pin), a 1-Wire temperature sensor device, etc.

www.bluewatersys.com/corporate/uni/unikitdip/



Bluewater's UDIP set up for lab use

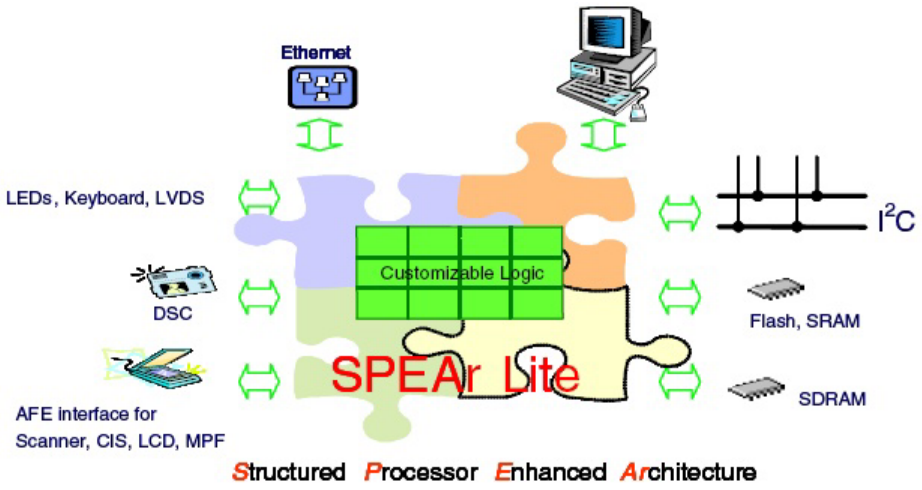
ARM + FPGA ... again

Altera was the first to integrate an ARM9 with an FPGA with their Excalibur product. Now STMicroelectronics has produced a newer take on this with its 'SPEAr' range. This aims to speed time to market for designs which require custom logic without the cost and complexity of a full blown FPGA.

SPEAr includes an ARM946E-S at 192 MHz, 400k of logic gates, SDRAM, Ethernet 10/100, USB Host and device, 16 channel 8-bit ADC and other peripherals.

The big news is the price - around US$13 in volume. This makes it a better option for many designs than an ARM plus FPGA. It will be interesting to see if SPEAr finds its way into mainstream products over the next year or two.

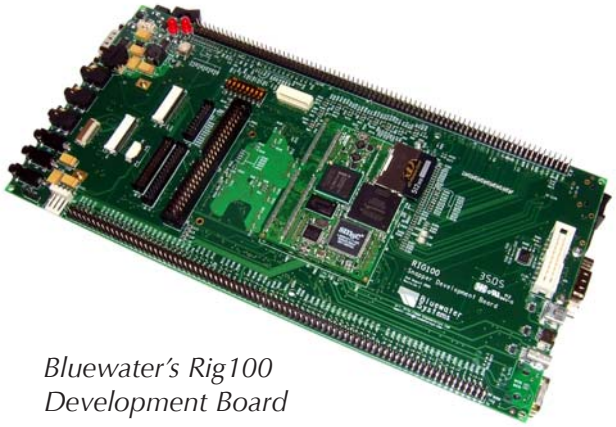
www.st.com/spear



Bluewater Releases Rig 100 Development Kit

Designed to be used exclusively with the Snapper 255 Module, the Rig 100 Development Kit is the ideal platform for developing software for target products that use Snapper as their system core. Rig 100 offers a wide range of standard peripherals and connectors and can be quickly configured to provide development base from which to develop further custom hardware and software components. Full access is provided to Snapper's FPGA I/O and the CPU system bus. By using Rig 100 and Snapper, research and development time and associated costs can be reduced by 50% - 80% compared to full custom development, enabling the fast turn around of 'proof of concept' prototypes and testing.

Rig 100 provides access to all of Snappers features and standard connectors for Snapper's Ethernet, USB, PCMCIA, LCD and touchscreen control, audio, serial, Mini PCI and CD/MMC peripherals. Standard 2.54mm pitch headers provide access to the system bus and FPGA I/O and other important signals.



Bluewater's Rig100 Development Board

Rig 100 includes:

- Snapper Socket
- 10/100T Ethernet
- USB 2.0 Revision 1
  - One Host-only port
  - One Host or Device Port
- One USB 1.1 Device Port
- PCMCIA socket (type 2)
- Touch-screen Interface
- Stereo Audio Input/Output
- 16-bit Colour LCD Support
  - Sony ACX705AKM 240 x RGB x 160
  - Hitachi SX21V001 640 x RGB x 480
  - Sharp LQ121S1DG31
  - Generic LCD Connector
- Mini PCI connector
- Processor daughterboard for:
  - Processor & Memory Upgradability
  - Reduced Main PCB layers
  - Enhanced System Testability
- 8 x user DIP switches
- 8 x user LEDs
- Reset Switch
- Expansion headers fo access to CPU system bus and FPGA I/O
- Single xD/MMC/SD socket

www.bluewatersys.com/snapper/doc/rig100.php

NZ HiTech Awards

Bluewater Systems has been nominated as finalists in two of the New Zealand HiTech awards categories. The recent project completed for NEC has been recognised in the 'Deal of the Year' section and the company in the 'Emerging Company' section. So it is fingers crossed until the awards event at the end of September!
We'll let you know how we get on!

www.hitech.org.nz

Austronics 2005

Bluewater Systems will be attending the Austronics 2005 tradeshow in Sydney on Sept 13 -15th. This is a great opportunity to see Bluewater System's Snapper, Rig 100 and UDIP boards in action as well as many other interesting and innovative products and vendors.

If you require a free pass to the show please contact Bluewater Systems directly or visit:

www.austronexpo.com.au

Bluewater hits the road

You may have heard of the traffic problems in Auckland, where no new roads have been build for over a decade. Christchurch has it easy by comparison. But just in case, Bluewater has purchased its own Segway.

This handly electric scooter can zip around town at up to 20km/h, visiting customers, dodging traffic and attracting the attention of onlookers. Some of you have already received a visit and had a try on it. If you haven't please feel free to drop by and give it a go next time you are in Christchurch.

Our Segway has been named Fast-ARM, and it has been declared the 'Official Office Transport'. Sadly, few staff have so far taken it for lunch.

ARM Tools News

Super-fast Simulator

If you need to simulate your complete system in software before you start designing the hardware, then we have good news.

ARM recently announced a new code translation simulation technology, allowing ARM software to run on PCs at nearly 100 MHz, up to 50 times faster than previously. The simulator can boot Linux in just a few seconds on a modern PC. Support is provided for LCDs and keyboard/mouse. Other peripherals can be added by the user.

The emulation supports ARM11 but can run code on all other ARM chips since they are backward compatible. The product is supplied as an add-on to RVDS, but is only available on Windows.

RVDS Service Pack 1

ARM has released a service pack for RVDS which includes support for ARM1136 rev1, Intel Wireless MMX support, and fixes various bugs. This update will be sent to customers under a current support agreement in the next few weeks.

Company News

New General Manager Appointed

During the winter Bluewater Systems appointed Tim Trewinnard as General Manager. Tasked with ensuring that the company continues to grow and retain its impressive reputation in the market, Tim will allow Bluewater's founder Simon Glass to focus more attention on customer focused activities.

Tim joins Bluewater having returned from the UK where he has worked in a number of high-tech organiations.

Salesman Pat joins the Team

Patrick McLauchlan has joined Bluewater as the company's first dedicated sales manager. With a long and impressive history in sales and the electronics industry, Patrick will ensure that Bluewater is correctly positioned to meet the needs of its customers.

Patrick is working to expand Bluewater's customer base by bringing Snapper to the attention of leading product developers and innovators around the world.

Bluewater Systems

Bluewater Systems Ltd
PO Box 13889
Christchurch 8001
New Zealand

Ph: +64 3 377 9127
Fax: + 64 3 377 9135
info@bluewatersys.com

Australia Sales
68 - 72 York Street
S. Melbourne 3205
Australia

Free Call 1 800 148 751
Fax: (03) 9699 7249
sales@bluewatersys.com

New Zealand Sales
Level 17, 119 Armagh St
Christchurch 8001
New Zealand

Ph: 03 377 9127
Fax: 03 377 9135

www.bluewatersys.com