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Stack Attack

It's been a long time coming, but after the noise and fanfare of Software Stacks and Silicon Stacks, the result was worth waiting for. What am I talking about you ask? Well the teams at 3L and DFCDesign have produced a Multiprocessing TCP/IP Stack that is totally optimized for multiprocessing systems.

This 'Stack Attack' now provides the Sundance designer with multiprocessing TCP/IP that delivers gigabit Ethernet data rates, is integrated into the 3L Diamond Multiprocessor tool-suite, is RFC compliant and certified as Diamond Enabled.

Roadtested on the SMT362 Digital Video Infrastructure Processor TIM that has 2 x 1GHz C6455 DSPs, 256Mb DDR2-500 SDRAM and a Virtex-4 FX60, the multiprocessing stack supports the low level TCP, UDP, IP, IGMP, ICMP and ARP stack protocols and delivers the gigabit data rates that are becoming commonplace in processor intensive applications such as high-end video and imaging, wireless base stations and networking.

To drive network connectivity, the stack's on-chip EMAC (Ethernet Media Access Control) provides the Fast Ethernet and Gigabit Ethernet interface. The protocol overhead is light touch at 10% and stack configuration and deployment is seamless through its integration into the Diamond IDE and tight interoperability with TI's Code Composer Studio.

And because you can use the stack from inside Diamond, it can be called by the designer from within the Diamond IDE and make use of a standard BSD socket API to simplify the process of porting applications.

According to Sobeslav Valach DFCDesign's CEO. "because of the work completed by ourselves and 3L, integration effort is taken away from the designer and the result is a very high performance stack that is easy to use and deploy." So go on, be generous and give the Stack the multiprocessing home it deserves. If you need help check out our product range and you may just be surprised!


'Under The Spotlight - SUPer deals from Sundance'

With our latest Sundance University Program (SUP) special offer we have tried our hardest to put the SUP into SUPer value, SUPer features, SUPer performance and even SUPer SUPport! In this issue of eNews we are putting the spotlight on our new SDR Kit that delivers an off-the-shelf hardware development platform and software tool kit for complete SDR development.

SUPer Value Our special academic pricing is available to instructors, students and researchers of recognized institutions and for academic purposes only. We are offering a massive 70% discount off our standard list price and the offer also includes the 3L Diamond multiprocessor tool-suite and the kind hearted guys at TI will also provide you with a copy of Code Composer Studio (CCS) free of charge.

SUPer Features
Based on our SMT8146 development platform for radio and waveform applications, the SDR Kit kit is modular, flexible, scalable, upgradable and...affordable. It offers university customers the following features:

- USB, JTAG & Ethernet-ready Platform
- Dual TI 300MHz Floating-Point DSPs
- (On demand: Dual 1GHz Fixed-Point DSPs)
- Xilinx Virtex-4 SX35 & FX60 FPGA
- Two 125MHz, 14-bit A/D channels
- Two 500MHz, 16-bit D/A channels
- Onboard SDRAM and Flash resources
- Code Composer Studio included for **FREE**
- 3L Diamond multiprocessor tool-suite with software demo
- SMT6048 USB driver and software API
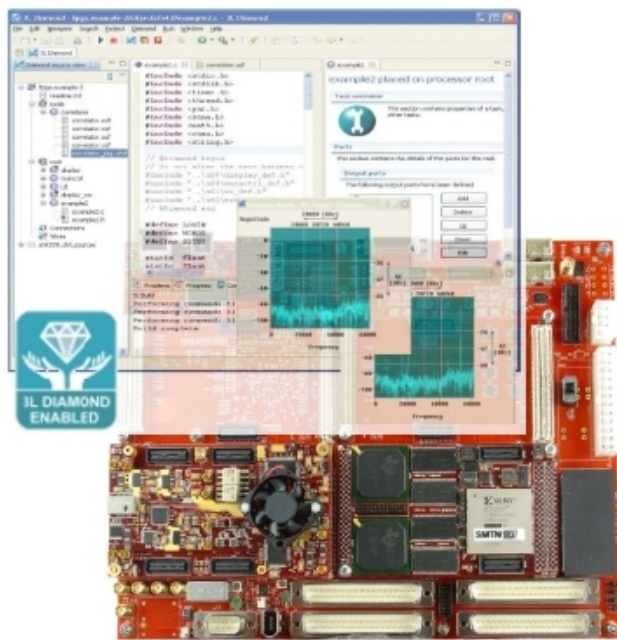
SUPer Performance

- The two 14-bit ADCs channels each deliver 125 MSPS
- The dual-channel 16-bit DAC converts digital results into analog signals at a rate up to 500 MSPS
- For pre and post-processing the Xilinx Virtex-4 SX (XC4VSX35) features up to 512, XtremeDSP slices and is capable of running at 500 MHz and the Virtex-4 FX60 has 500 MHz integrated block memory
- Supplied with 3L Diamond and Code Composer Studio, and compatible with Simulink, designer performance is enhanced by the most productive design tools in the market

SUPer SUPport

- Customer are provided withan online technical support system @ http://support.sundance.com
- Support for TI's Code Composer Studio is provided through their European Customer Support Center
- Go to http://forum.3l.com/ to access the 3L support forum and knowledge base
- User Guides, Documentation, Tutorials, demo applications, source and design examples.

If you want to get your hands on the SDR Kit or know more about the Sundance University Program (SUP) please visit our website or contact your local Sundance Office direct.

'Long Term Evolution (LTE)... It maybe sooner than you think'

At the Mobile World Congress we were delighted to have worked with the Comsys Mobile team to help deliver and verify their breakthrough LTE Transmitter. At the show Comsys Mobile demonstrated full HD video streaming over LTE, but what you may be asking is LTE? Why is it being promoted as the next big thing in our communications infrastructure? And what's it got to do with Sundance? (well some people do!)

LTE, (Long Term Evolution), is a 4G technology described by many as the next major step in wireless communications technology. It's an all digital solution that will deliver (it is claimed) the higher bandwidth, higher reliability and better quality of service networks we will need.

So what's driving this requirement (it involves big time infrastructure investment)? As the very proud and happy owner of an iPhone (3G), the answer is in the palm of my hand. It is not so much the demands of corporate business that are driving 4G, though they play a critical part, 4G is being driven by the mobile TV, bebo generation and is a consumer revolution.

Everybody these days seems to be twittering, most of the population half my age are uploading video clips onto YouTube, VodPod or their preferred social networking site... and if you get lost, you can find yourself with GPS or a location service. These are the new, multimedia rich services that are driving our insatiable appetite for high reliability bandwidth and are squaring the circle on LTE.

Based on IP (the Internet Protocol) LTE is much better suited to data than current technologies that grew up in the voice centric era. LTE will deliver 100 Mbps downlink rates and 50 Mbps for uplink and antenna technologies such as MIMO will enable the better processing of data and better utilization of network capacity.

So hyperbole about the future of LTE aside (and I don't believe it is), what has this technology to do with Sundance and why haven't I mentioned WiMax - the other 4G technology?
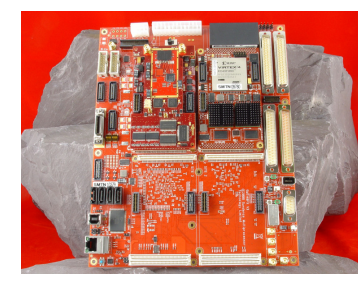
For the past few years Sundance has progressively become one of the leading providers of development systems and production modules for 3G and now 4G technology.

Amongst our many customers, Comsys Mobile used our modular solutions, the SMT148 carrier, SMT351T Virtex 5 FPGA module and the SMT350 Dual ADC/ DAC module to help develop their LTE transmitter.

mimoON the LTE pioneer for software defined radio (SDR) use our MIMO development systems in their development programme and WiMax, yes, we have that covered too, with our WiMax Development Kit that supports the design and development of a wide range of WiMAX applications from base station prototyping through Wireless cellular prototypes.

Who'll win out in the 4G race remains to be seen. Verizon are backing LTE as are AT&T in their many public announcements. WiMax certainly has its supporters and is more mature than LTE.

Predicting the future is an inexact science, but either way Sundance has the spectrum of 4G covered.