Dedicated Systems' News

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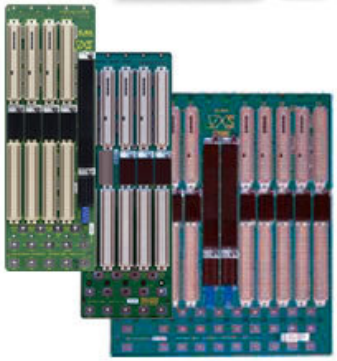
Phoenix—VMETRO's Family of VXS Building Blocks

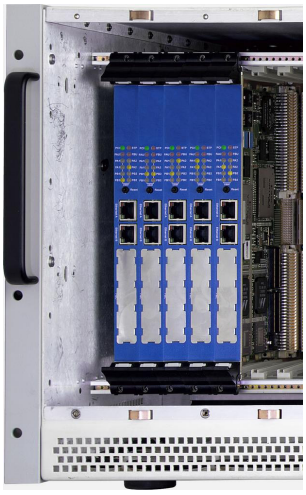
Inside this issue:

Phoenix systems are built around high-performance processing, I/O and multi-channel Gbps serial communications with supporting software and firmware. These new products enable you to leave the system backbone to VMETRO and let you focus on your key areas of expertise for an effective solution. **Phoenix** VXS solutions now includes FPGA/PowerPC processing, real-time switches, intelligent I/O controller with XMC/ PMC sites, high-speed analog I/O and software/firmware communications support. Backplanes and enclosures can also be provided.

VXS Dual FPGA/Dual PowerPC Processor

- 2x Xilinx Virtex-II Pro XC2VP70 FPGAs
- 2x 1 GHz PowerPC 744x CPUs
- PMC site, RS232, Ethernet, parallel digital I/O





VXS Zero Latency Switch

Real-time VXS Circuit Switch

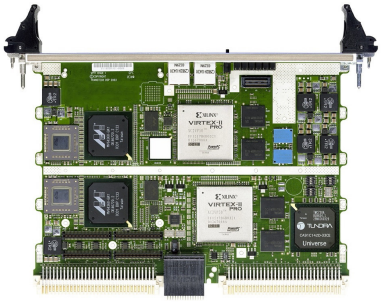
- Up to 14 4x (or 56 1x) Backplane Links
- Up to 12 1x Fiber Optic/ Copper Front Panel Transceivers
- Hardware Multicast

VXS Dual XMC/PMC IO Controller

- 2x XMC/PMC sites
- Embedded PowerPC 440SP CPU
- Dual Fibre Channel Controllers

VXS High-Speed Analog Input Cards

- 1 or 2x 215 MSPS, 12-bit Analog Input Cards
- 2x 2 GSPS, 10-bit Analog Input Card
- Local Xilinx Virtex-II Pro FPGAs



TransComm - FPGA Communications Toolbox

- FPGA Centric Toolbox
- FPGA to FPGA, FPGA to PowerPC and PowerPC to PowerPC Communications

VXS Backplanes and Enclosures

- Choice of replicated and dual star backplanes
- 5 - 12-slot VXS backplanes
- Commercial air-cooled, rugged and liquid-cooled solutions

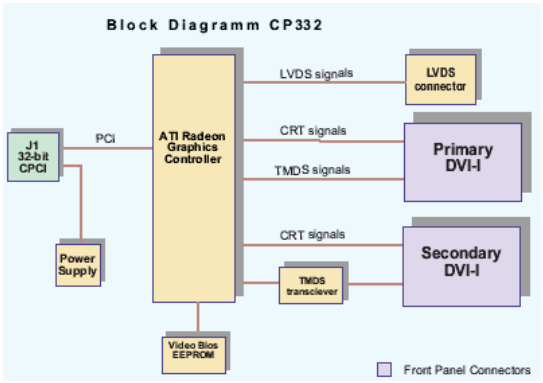
Tel. 08 8339 1964 **Fax. 08 8370 1466** **Sales@dedicatedsystems.com.au** **www.dedicatedsystems.com.au**

UXGA Dual Channel CPCI Graphics Adapter

Developed around the ATI Mobility™ Radeon® M9-CSP64 graphics controller, the CP332 is a CompactPCI 2D/3D high-performance graphics board built for use with all industrial standard displays. The CP332 provides two display channels for connecting displays with different refresh rates and resolutions at the same time. The physical interfaces are selectable for usage as CRT/analog or TMDS digital interfaces.

The CP332 provides two DVI-I connectors on the front panel enabling the user to connect up to two analog or digital monitors to the CP332.

The board operates from 3.3V only. Standard temperature range is 0C...60C;



an extended temp. range is also offered: -25C…+75C.

The board can operate with the Microsoft® Windows® 2000, Windows® XP and Windows® XP Embedded and Linux operating systems.

Announcing Wind River Workbench Diagnostics 1.0

Wind River Workbench Diagnostics 1.0, an add-on product to **VxWorks-based platforms**, is a root-cause analysis tool set that records, isolates, diagnoses, and corrects device software faults. The tool set includes run-time components for on-device data acquisition and data offload, as well as diagnostics tools to isolate and diagnose software faults. Workbench Diagnostics increases developer productivity by compressing debug cycles and eliminating unnecessary instrumentation-build-test cycles.

Workbench Diagnostics offers complete access to running applications with sensor points and core images. A sensor point is software used to instrument "live" applications dynamically without modifying the application source code, rebuilding the application, reflashing development boards, or rebooting the target. A core image is a snapshot of system memory - the VxWorks 6.2 kernel generates core images when exceptions occur. Diagnostic extensions to Workbench provide debugging workflows to instrument the application, collect debug data as faults occur, analyze data to determine the root cause of a fault, and correct the application.

Workbench Diagnostics includes the following run-time components and features:

- Device management agent
- VxWorks 6.2 core image aware
- Sensor point management
- Robust data offload
- Minimally intrusive; small footprint
- Scalable, configurable
- Source code availability

Workbench Diagnostics add-on modules include:

- Sensor point workflow
- Workbench-based sensor point development
- Sensor point management with Diagnostics plug-in
- Sensor point log analysis with Sensor Point Log Viewer
- Core analysis workflow
- Core image extraction with Diagnostics plug-in
- Core file analysis with Workbench Debugger

Workbench Diagnostics compresses time-to-resolution of problems encountered during the implementation phase of the development life cycle. Benefits include:

- Improves development productivity
- Enables fact-driven analysis
- Allows streamlined testing workflow
- Minimizes project delays by reducing time for defect resolution during development
- Increases overall device reliability (test early and often)

USB based Probe - Smart development tools build smart products

Wind River Probe provides the fastest high-speed USB connection between a host debugger and target microprocessor. It provides a high-speed JTAG based connection that offers industry-leading download speeds, overall debug through-put, and unprecedented debug efficiency. It is powered via USB - making it the ideal portable debugging tool.

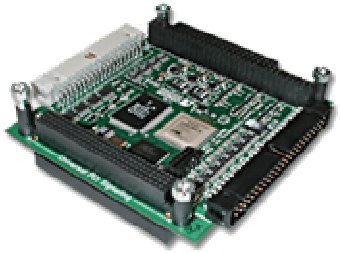
Developers can perform common source level debug activities such as watching memory and controlling large numbers of registers in a matter of seconds. They can shorten edit/compile/download/debug cycles and make more turns, even with the most complex of applications.

Features and Benefits

- Supports many 32 bit processors.
- High-speed USB download. Download up to 1 MB/sec with certain targets, which is typically 3-10 times faster than other products.
- Modular design and target versatility. Enables developers to move from one target to another using the same debugging hardware.
- On-chip debug target control. Start/stop target, set hardware/ software breakpoints, take a target snapshot, reset the target, step one statement/ instruction into function calls, and step over or out of a function.
- Built-in hardware diagnostics. Comprehensive suite of RAM tests, scope loops, and CRC checks.
- Flash memory programming. Complete library of turnkey algorithms for programming Flash devices.
- Support for VxWorks, Linux and other 3rd-party operating systems
- Internal register configuration. Automated internal register configuration utility with bit -level detail and online help.
- Additional custom registers. Supports 32 groups, for a total of 960 custom registers.
- Open API. Wind River Probe is fully integrated with Wind River OCD API to allow fast and flexible integration of its powerful capabilities into your own custom environment (e.g., automated test and production application).

New High Density ARINC 429 / 717 card for PC/104-Plus

Condor Engineering announces the CEI-430, a high-density ARINC 429 interface for PC/104-Plus and PCI-104 systems. Utilizing Condor's latest FPGA design technology, the CEI-430 provides unprecedented ARINC 429 channel density and a wide array of features. Configurations are available that also support the flight data recorder databus (ARINC 717/573), enabling engineers to easily integrate flight data into in-flight entertainment systems.



"Condor developed the CEI-430 in response to customer requests for increased channel density in order to consolidate two ARINC 429 cards onto one," stated Rick Schuh, V.P. Sales at Condor Engineering. "By integrating up to 24 channels into one PC/104-Plus form factor board, avionics designers can reduce the number of slots required, saving space, power and lowering heat output."

High resolution, time-stamped buffering and filtering are provided for each ARINC 429 Receive channel, along with accurate transmission scheduling for transmit channels. IRIG-B Receiver/Generator support is optional. Condor's Dual-Mode ARINC 717 functionality programmatically supports either HBP (Harvard Bi-Phase) or BPRZ (Bi-Polar Return to Zero) across a very wide range of Bit Rate/Subframe combinations.

Additional features of the CEI-430 include independent, software-programmable data rates and parity, error detection and automatic transmit channel slew rate adjustment. The CEI-430 offers up to 16 bi-directional avionics-level discretes, up to four bi-directional RS-485 discretes, and two megabytes of on-board RAM. All 24 channels operate independently. The CEI-430 is available in PC/104-Plus (with ISA bus pass-thru) or PCI-104 (no pass-thru) configurations, and uses the PCI bus for all host communications.

The CEI-430 is provided with a comprehensive Application Programming Interface and integrated driver support for Windows, VxWorks and Linux.

Wind River Workbench Unit Tester

Unit testing and integration testing are the lowest levels of testing performed during software development, where individual functions, classes, or subsystems of software are tested in isolation from other parts of a program. This level of testing is also the least expensive time to fix software bugs if they can be identified. Workbench Unit Tester is a plug-in that allows developers to more efficiently complete unit testing, integration testing, and code coverage analysis on the tests.

The integration between Workbench Unit Tester and the rest of the Workbench development suite places these capabilities within easy reach of every developer. This helps to increase software quality, decrease time-to-market, and reduce support costs through better, faster, more automated testing during the development life cycle.

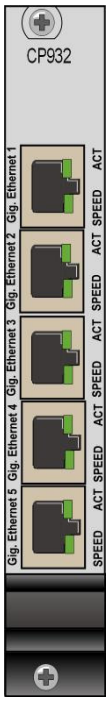
Features

- Makes it easier for developers to perform unit testing as each function or class is written, thereby catching bugs earlier in the development process
- Tight integration with Workbench 2.4 encourages standardized Unit Test development across a project and across engineers
- Integrated Coverage Analysis provides statement, decision, MC/DC, entry point, and call-return metrics
- Consistent test reporting across an entire project in XML, HTML, or WordML ensures unbiased, unambiguous documentation of results.

Benefits

- Code base maintainability: the capacity to understand if changes to common code modules will affect current or other projects
- Long-term product reliability: minimizing the chance that untested code branches exist in shipping products, eliminating the high cost of having to field fix bugs in shipped products
- Consistent test case structure and generation
- Ability to monitor quality of outsourced development
- Consistent, objective project-wide reporting
- Implementation of coverage rules to meet compliance requirements
- Powerful, flexible, easy-to-use tools and wizards
- Integrated into Workbench

5+1 Port 3U CPCI Gigabit Ethernet Switch with integrated NIC



CP932 is a robust design of a 6 port Gigabit Ethernet Switch on a 3U CompactPCI board. The integrated NIC on the CP932 is always connected to the system slot CPU. The five front panel RJ45 connections are all uplink capable. A five port version is also available for use in "non-CompactPCI" applications.

- Switch Controller Broadcom BCM5388
- Gigabit Ethernet Controller Intel 82541PI
- One port connected to CPCI Bus
- 5x RJ45 on front panel
- Powered by CPCI 5V
- 5V ATX connector for non-CPCI version
- Software drivers for VxWorks; Windows and Linux
- Auto negotiation
- 10, 100 and 1000 Mbit/s
- Auto Cross-over (MDI/MDIX)
- Each port can be used as uplink
- Standard temperature range 0C...70C
- Extended temperature range (still under validation)