Dedicated Systems' News

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Luciad & Dedicated Systems Australia bring Situational Awareness into a new era

Dedicated Systems is pleased to announce it has a signed an agreement to resell.

LuciadLightspeed provides software components and functionalities that enable data fusion, visualisation and analysis of geospatial information. This can include static and moving data, maps, satellite imagery, and terrain elevation in many different formats and references. **LuciadLightspeed** enables the development of Sustainable Applications; Applications that are easier, and thus lower cost, to maintain, and applications that can be evolved in a cost effective manner.
Customers appreciate the value **LuciadLightspeed** brings in allowing significantly faster developments of applications, combined with unparalleled performance and accuracy.

"The performance combined with the clean design of LuciadLightspeed enables us to build applications that meet our current and future requirements", commented Tim Wagner, Head of Intelligence Surveillance and Reconnaissance at Cassidian Germany. "The focus on relevant domains, the fast development and the re-usability of components across multiple projects and applications, are a major asset for any project team."
If you would like further information concerning **LuciadLightspeed** please visit http://www.luciad.com/products/luciadlightspeed.

About Luciad

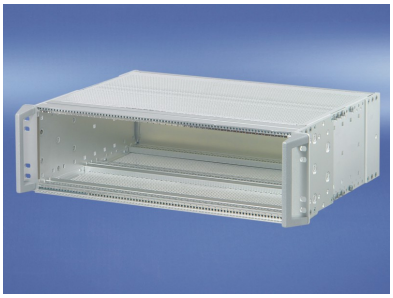
Luciad is the supplier of choice for leading Systems Integrators worldwide, for their Situational Awareness applications in mission critical C4ISR and ATC/ATM systems.
Luciad's International customer base includes AENA, Belgocontrol, Boeing, Cassidian, DFS, EADS, ENAV, EUROCONTROL, FAA, Frequentis, Lockheed Martin, LVNL, NATO, NATS, NavCanada, NLR, Saab, SAIC, Sagem, Thales and Thales Raytheon Systems.
For more information please visit www.luciad.com

Toe Drive® Rugged USB Mass Storage Module

The USB Toe Drive is a removable flash storage device that interfaces to any embedded system through a MIL-SPEC 38999 connector. It features a unique secondary USB port for easy uploading and downloading of data to any computer using standard commercial USB cables. Rugged, high-capacity storage, write protect, fast erase, and ease-of-use make the Toe Drive an ideal mass storage solution for a variety of demanding military, avionics, and ground vehicle applications.

- SLC NAND flash up to 64GB—Recognized as USB fixed disk
- 38999 connector: USB 2.0 compliant
- Micro connector: USB 3.0 and USB 2.0 compliant
- Write endurance: >60,000 write cycles; Data retention: >10 years
- 100 MB/s (Micro USB 3.0); 30 MB/s (38999 and Micro USB 2.0)
- Write protect; Fast erase; EXT3 formatting
- Windows and Linux compatible
- 6/6 RoHS compliant
- Storage temperature: -55 to 100°C
- Ambient temperature: -40 to 71°C
- Compact enclosure: 5.2 x 2.0 in (132mm x 51 mm)

The europacPRO Subrack type R, "rugged"

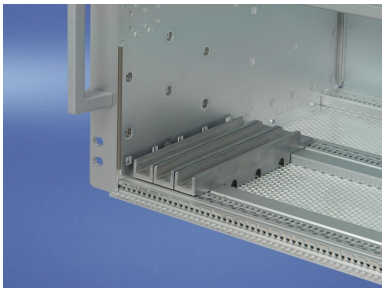


Subracks used in security and defence systems, in heavy industry environments, in energy or power generation sectors and in transport are exposed to particularly high loading levels. The Schroff europacPRO type R ("rugged") subrack has now been successfully tested to the relevant specifications.

For security and defence applications, shock and vibration resistance has been confirmed to the levels required for MIL 810 G and MIL 901. Equally important in these fields is enhanced EMC protection. Here the unit passed a test conforming to VG95373 part 15 and interference immunity was certified in the frequency range from 30 MHz to 2 GHz. All test results and videos are available online.

The type R (rugged) europacPRO subrack tested is designed for particularly high loading conditions. By using thicker side panels, reinforced horizontal rails and 19" brackets and corner profiles, these subracks are capable of withstanding the loads encountered in mobile situations and particularly harsh environments (shock resistance up to 25g).

Side panels and 19" brackets are cold welded in order to ensure higher resistance to shock and vibrations. Since the 19" brackets are some three times deeper than those of other versions, a considerably larger overlap with the side panel could be achieved. This results in many more cold welding points and hence substantially increased stiffness for each side panel.



To achieve still better stability, new horizontal rails have been developed that are some 15 mm deeper and feature three -hole fixing. Their stiffness is approx. 65% greater than that of rails with two-hole mounting. If required, the guide rails can be bolted to the horizontal rail. In addition, there are also guides to accept Card-Loks, Wedge-Loks or clamshells. To secure and further stiffen the cover plate, a locking mechanism has been developed that is bolted to the horizontal rail and the cover plate in several places.

Bringing FPGAs to the (Relative) Masses—OpenCL for FPGA

Ron Huizen (BittWare VP of Systems and Solutions), recently wrote a two-part article for the US-based publication RTC Magazine. Now it is available online.

With their programmable hardware resources, FPGAs can be customised to a specific application and outperform central processing units (CPUs) and graphics processing units (GPUs) while using a fraction of the power. The major issue with deploying FPGAs to a broader user base is their reliance on specialised programming languages known as hardware description languages (HDLs) such as VHDL and Verilog. While strong arguments can be made for their power efficiency and performance versus general purpose CPUs and GPUs, the pushback is always the same—the skill set needed to use them is too specialised and development cycles are way too long.

Part 1 of this article explores how OpenCL allows FPGAs to be programmed in a C-like language, thus opening them up to a much wider base of programmers, and allowing them to be more readily deployed in places that have typically used CPUs and general purpose GPUs

Part 2 of this article discusses how OpenCL for FPGA can be used to address more than just the CPU accelerator market by including extensions for streaming I/O, support for multiple FPGA systems, and by using embedded ARMs as the OpenCL host, allowing the benefits of FPGA technology to be brought to an even larger group of users.

Part 1: http://rtcmagazine.com/articles/view/103367

Part 2: http://rtcmagazine.com/articles/view/103412

Modular Mission Computer from Elma easily provides Custom I/O

Multi-core processing combines with flexible configurations

Elma Electronic Inc. now offers the compact F-Series PCIe/104 Platform, a fanless, rugged mission computing platform that combines an innovative, highly configurable structure with Intel's 4th generation Quad or Dual Core processor.

Using custom I/O panels, expandable sidewall modules and a host of application specific PC104e I/O expansion cards, the F-Series Platform can be easily modified to take on additional I/O including video compression and frame grabbers, ARINC and 1553 cards, Ethernet and Ethernet switching plus FPGA and GPGPU processing.

By combining a suite of high speed I/O with a high performance HD4600 graphics engine, the F- Series enables unparalleled performance for countless applications.

The rugged system platform incorporates a thermally conductive base as well as ribbed sidewalls and fins to provide convection and conduction cooling for superior thermal management. The mission computer, which can withstand external temperatures of -40°C to +70°C, is designed to meet MIL-STD-810F, ensuring reliable performance in high shock and vibration applications.

The F-Series PCIe/104 Platform's base board configuration supports:

- Intel's 4th generation Quad or Dual Core processor
- Up to 8 GB DDR3
- Type 1 Bottom-Stacking PCIe/104 with Gen2 PCIe x1 Lanes and Gen3 PEG x16
- SATA with RAID capability
- 2x Gigabit Ethernet ports; 2x RS232 COM ports
- 13x USB 2.0; 2x USB 3.0, backward USB 2.0 compatible
- Onboard audio and video for three independent displays
- Discrete 16-bit GPIO Port
- PCI Express Mini Card 1.2 Socket

WIND RIVER LINUX 6

Wind River® has introduced the latest version of Wind River Linux, the industry standard for embedded Linux software. The new version includes expanded hardware support for the latest ARM, Intel®, MIPS, and PowerPC architectures. Wind River Linux is also updated with the current Linux kernel, tool chain, and user space. With the Yocto Project 1.5 open source development infrastructure as its core foundation, Wind River Linux 6 uses the latest Linux kernel as its upstream source to ensure customers have commercially supported access to the newest advancements from the open source community. Adding to existing Intel architecture 64-bit support, Wind River Linux includes ARM 64-bit processing support to further address the constantly growing data size requirements for embedded systems. Wind River Linux builds on our world-class project support, rapid open source maintenance practices, and advanced tools to deliver the ultimate starting point for embedded Linux innovation. Leveraging an unparalleled range of high-quality board support packages (BSPs) across a variety of architectures, Wind River Linux jump-starts embedded device development while providing the long-term customer support for which Wind River is famous.

Key Features and Benefits

Wind River Linux amplifies the value of our embedded Linux distribution with open source standards-based build infrastructure, market-leading support, and advanced embedded Linux capabilities. Its very small footprint, optimized boot time, and advanced power management enable lightweight, instant power-on devices with extended battery life.

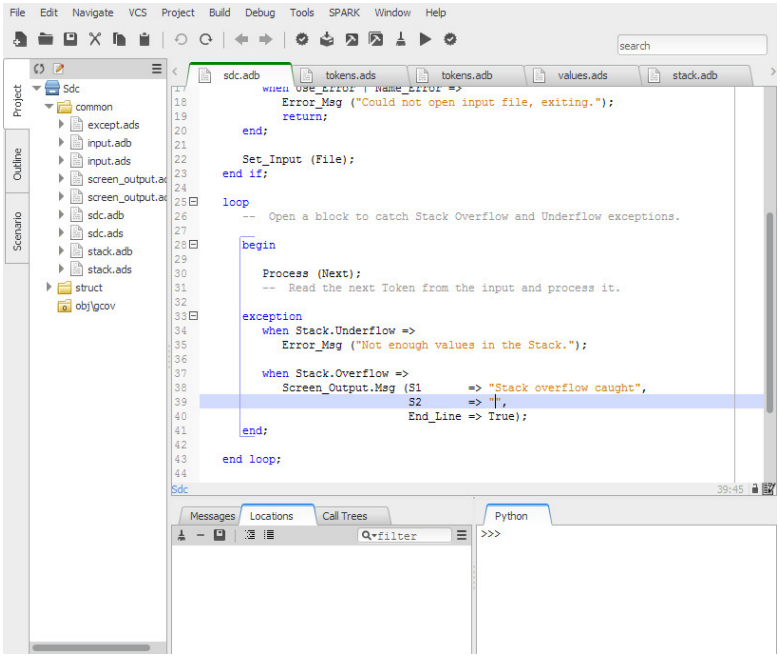
Yocto Project Compatible

- Wind River Linux is compatible with the Yocto Project, increasing cross-architecture portability and improving software interoperability. Reduce the cost of change for embedded Linux platforms with the following:
- BitBake, the industry-standard open source build system that combines kernel, packages, and patches and easily cross builds them via the GNU cross-tool-chain
- Build-system layers that provide a powerful mechanism for software and middleware encapsulation and separation
- Broad set of user-space packages and cross-build recipes
- Multiple BSPs with a common format available through the Yocto Project repository

AdaCore Releases Major New Version of GNAT Programming Studio

GPS 6.0 Integrated Development Environment brings upgraded and modernized "Look and Feel"

AdaCore announced the release of the GPS 6.0 graphical Integrated Development Environment (IDE), a major upgrade with a significantly revised and cleaner user interface that eases program navigation and editing. With this new version of the GNAT Programming Studio, developers can take advantage of more space for editing and a number of design changes that bring program-related information within easy reach. The revised look and feel is supported by a new relational database at the heart of the GPS engine, making code navigation much more efficient. The principles underlying the GPS 6.0 revision help the IDE achieve its main goal: to serve as a customizable platform for multi-language, multi-tool integration, usable by developers at all experience levels.



The improvements to the IDE's look and feel exploit the latest Gtk+/GtkAda graphical toolkit and encompass a reorganized interface (including more economic usage of screen space), a global search facility, additional view capabilities and further support for color tailoring. GPS 6.0 also brings improved performance and new functionality, including language support for SPARK 2014, syntax highlighting and tool tips for Ada 2012 and SPARK 2014 aspects, editor enhancements, and a number of additions to the scripting API. The GPS 6.0 enhancements have received an enthusiastic response from the product's beta sites.

"GPS 6.0 comes from a major engineering effort to improve the product's overall usability," said Nicolas Setton, GPS Product Manager at AdaCore. "We have been listening to what customers have been telling us, and this new version should be more than an IDE, it should also be a pleasure to use."

GPS is provided with the GNAT Pro development toolset on most platforms, for both native and embedded software development, and GPS 6.0 is available to GNAT Pro customers for download through GNAT Tracker.

A GPS 6.0 demo will be available at www.adacore.com/gps-demo.

SD8 - CompactPCI ® Serial - 3U SATA Removable SSD Card

The SD8 is a peripheral slot card for CompactPCI® Serial systems.

The SD8 is provided with a mobile frame, which accommodates a 2.5-inch size SATA drive, either SSD or HDD. Fast swap of the drive can be accomplished via the front panel. A push button unlocks a door and ejects the drive.

The SATA channel is derived from the CompactPCI® Serial backplane connector P1.

For optimum signal integrity, the SD8-STEEL is equipped with 6Gbps SATA redrivers.