Dedicated Systems' News

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Wind River General Purpose Platform, VxWorks Edition, Available Now

Wind River Systems, Inc., the global leader in device software optimization (DSO), has announced the general availability of the Wind River General Purpose Platform 3.0, which is based on VxWorks 6.0. The General Purpose Platform, VxWorks Edition, offers device manufacturers a runtime environment that seamlessly integrates the industry's leading real-time operating system, with Wind River Workbench, the industry's most comprehensive development suite, and robust middleware. Companies that use the next generation of Wind River General Purpose Platform, VxWorks Edition, can deliver device software with increased connectivity, security, reliability and quality.

- **Seamless migration from VxWorks 5.5**
- **Immediate access to memory management unit (MMU) based memory protection**
- **Enhanced error detection and reporting**
- **VxWorks and Linux messaging channels**

The General Purpose Platform, VxWorks Edition, is backward compatible with VxWorks 5.5 and supports open standards. With the General Purpose Platform, VxWorks Edition, customers can leverage existing VxWorks 5.5 code as well as in-house proprietary and open source code, allowing them to migrate easily to their next generation projects. Enhanced memory protection and error management features accelerate debugging, shorten time to market and raise product quality. With the integration of industry-standard middleware such as a dual mode IPv4 and IPv6 networking stack and enhanced POSIX compliance, the General Purpose Platform, VxWorks Edition, provides customers with increased connectivity and security.

- **Optional MMU-based memory protection**
- **Enhanced error management, before and after deployment**
- **Support for VxWorks and Linux messaging channels**
- **Dual mode IPv4 and IPv6 networking stack**
- **Enhanced POSIX compliance**

Story ID 1

Inside this issue:

NDDS - Middleware and Tools Facilitate Building Real-Time Distributed Systems

NDDS (Network Data Distribution Service) is RTI's publish-subscribe middleware, based on the Object Management Group's™ (OMG™) Data Distribution Service (DDS, V1.0). The DDS specification standardizes the software application programming interface (API) and underlying communications model a developer can use to create distributed applications. DDS is based on the simple, yet powerful, Data-Centric Publish-Subscribe (DCPS) communications paradigm that offers the application developer a high level of abstraction and yet controls all the Quality of Service (QoS) parameters needed for deploying real-time systems. RTI's NDDS publish-subscribe middleware has been integrated with the DDS API. This commercial-off-the-shelf (COTS) implementation offers a high-degree of fault tolerance while reducing schedule risks, initial development costs and total cost of system ownership. NDDS also provides greater flexibility in terms of

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Kontron introduces CPCI Pocket PCs in 3U and 6U

CP-Pocket for 3U CPCI cards and XL-POCKET for 6U CPCI cards are very cost effective solutions. Both systems are available in AC and a DC standard versions (20 ... 60 VDC or 100 ... 260 VAC input voltage) . Each system has a 75 Watt power supply and a 4-slot CompactPCI backplane. The power supply provides the 5.0 Volt and 3.3 Volt for the CPCI boards inside the system.

XL-Pocket: The integrated Master CPU board CP6500-V is equipped with a cost-effective 400-MHz (ULV) or 1GHz (LV) Intel® Celeron® Processor, VGA, 2x USB, 2x Fast Ethernet, a PMC extension slot and space for an onboard 2.5" HDD. In addition, the CPU board includes a CompactFlash socket. The XL-Pocket has 3 CPCI expansion slots, one of which is 3U.In addition to the existing Ethernet interfaces already on the processor card provided as standard, an additional Ethernet switch from Kontron can be integrated.

Dimensions: 155 mm x 298 mm x 210 mm

Temperature Range 0 C to + 50 C (standard).
Operation Humidity Range: 20 ... 80% (non-condensing)
Weight: approx. 3.0 Kg

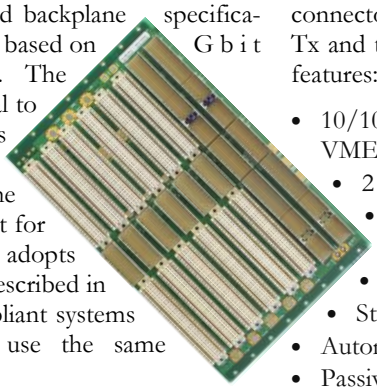
CP-Pocket: Together with the CP306-V a long life fan is integrated in the 4U CP-POCKET version. The CP306-V is based on the fast 1.3 GHz Intel Celeron M and features a 400MHz system bus. The passively cooled processor comes with a 512 kByte L2 cache. Memory is up to 1GB of DDR-SDRAM The version with the 4 HP wide front plate has one port for each of DVI, PS/2, USB and Fast-Ethernet; the version with the 8 HP wide front plate also comes with a CompactFlash adapter, a COM port and a 2.5-inch hard drive carrier.

Dimension 155 x 165 x 210 mm.
Weight approx 2.5 Kg
Temperature Range: 0 C to + 50 C (standard).
Operating Humidity: non-condensing 20 ... 90% .

Story ID 3

Elma supports VITA 31.1 Gigabit Ethernet on VME64x

VITA 31.1 defines a pinout and interconnection methodology for implementing a 10/100/1000BASE-T Ethernet switched network on a VME64x backplane – similarly to the PICMG 2.16 Packet Switched backplane specification that adds a switched network based on Gbit Ethernet to cPCI backplanes. The VME64x P0 connector is identical to the cPCI P3 connector and has the same placement on the backplane. VITA 31.1 adopts the PICMG 2.16 P3 connector pinout for use on VME64x boards. It also adopts the definition of the fabric card described in PICMG 2.16. PICMG 2.16 compliant systems and VITA 31.1 systems can use the same switched fabric boards.



Each Node Slot is connected with Ethernet Links to the Fabric Slots. Each such a link is used to transmit packets only between one Fabric Slot and one Node Slot. There are no bussed lines used between the Node Slots and Fabric Slots, only point to point connections. Switches for a PICMG 2.16 backplane are 100% compatible to a VITA 31.1 backplane. Node Slots are similar to PICMG 2.16, where the Ethernet ports were assigned to the P3-cPCI connectors, in a VITA 31.1 backplane the Ethernet ports are assigned to the P0 connectors otherwise used only as I/O connectors. Each Port consist of four differential pairs (two Tx and two Rx). Elma's 8 slot backplane has the following features:

- 10/100/1000BASE-T Ethernet switched network on a VME64x backplane
  - 2 redundant VITA 31.1 Fabric Slots
  - 6 VITA 31.1 Node Slots
  - Increase bandwidth and reliability
  - Switches 100% compatible to PICMG 2.16
  - Standard VME64x / cPCI connectors
- Automatic active Daisy Chain
- Passive inboard termination
- Power input: M3/M4 power bolts
- 10-layer construction
- ANSI/VITA 1.1-1997 VME64x Standard compliant
  According to VITA 1.7 Increased Current Level For 96 Pin & 160 Pin DIN/IEC Connector

Story ID 4

High Availability Mirrored Disk Storage Blade with Hot Swap

The IC6MB mirrors two IDE disks using RAID 1 techniques to appear to the host processor as a single volume IDE disk drive. This unique and advanced storage module delivers high availability storage to meet the demands of today's high performance telecommunications and server platforms.

The SC6M mirrors two IDE disks using RAID 1 techniques to appear to the host processor as a single volume SCSI disk drive. This unique and advanced storage module delivers high availability storage to meet the demands of today's high performance telecommunications and server platforms.

These redundant disk arrays, self-contained on a 6U cPCI single slot board, appear to the system as a single volume IDE or SCSI disk drive. The Adtron proprietary disk controller connects two 2.5-inch IDE hard disk drives in a mirrored array, provides failed drive replacement, and automatically initializes and rebuilds the replaced disk without stopping host processing. Board-level hot swapping is available, compliant with the PICMG basic hot swapping model. PICMG 2.9-compliant IPMI provides telecommunications and server computing platforms with alarm card functionality. The IPMI communication channel provides storage system health information to the network controller through the local IPMI alarm card.

FEATURES

- Basic hot swap at the board level
- No additional software drivers are required
- Redundant disk storage, up to 80 GB in a 6U cPCI single slot
- Configurations for either PCI or off-board IDE connection
- Front panel hot swapping for replacement of a failed disk drive
- Automatic rebuild of new disk drive
- Independent operation of redundant drives without host intervention

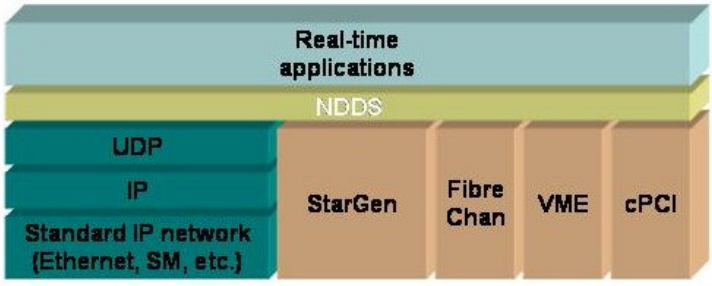
Story ID 5

NDDS - Middleware and Tools (continued…)

platforms, languages and transport mechanisms. NDDS' robustness and flexibility are critical to distributed real-time systems such as simulators, telecommunications, industrial automation, medical equipment, factory automation and avionics.

The DCPS model stands as a natural complement to the object-centric client-server model provided by CORBA® implementations. The DDS standard culminates a persistent effort to ensure that a world-wide data distribution standard is freely available.

A requirement common to most real-time distributed applications is the need to pass data between different subsystem modules. These modules may be on different processors or spread across multiple computers connected through a transport mechanism such as Ethernet, shared memory or a backplane such as VME. These subsystems gather and generate data through interfaces with sensors, monitor and process data, or control and communicate with other subsystems. Under the DDS standard, developers specify various QoS parameters such as rate of publication, rate of subscription and how long data is valid throughout the network. Devices sending data become publishers and are only concerned with the specific data type they communicate. Devices needing specific information are subscribers and only need to know about the particular data they wish to receive. NDDS takes advantage of the capabilities inherent to the DCPS model to offer a high-quality implementation developed with the requirements of real-time and embedded systems in mind. NDDS minimizes the need for data copies resulting in increased performance. Also, NDDS allows the application to pre-allocate resources, increasing reliability and real-time determinism.



Story ID 2

GMS selects Dedicated Systems for VME and PMC

Since being founded in 1979, GMS has become an industry leader in the design and manufacture of Single Board Computers (SBC) for VME and other form factors for the embedded real-time markets. GMS offers an extensive standard line of SBC for VME, based on Intel's Pentium and PowerPC Processors (IBM and Motorola). Here are the VME performance leaders:

- ***V394 Dual PowerPC, Dual PMC, VME SBC***
- Dual 7447 PowerPC @ 1GHz
- Full SMP support via Discovery®-III
- 128-bit AltiVec TM technology support
- Dual 64-bit 66/100MHz PCI-X local Buses
- Up to 1GB of DDR SDRAM
- Two 64-bit 66/100MHz PMC sites
- Ultra SCSI 160 with differential output
- Three Gigabit Ethernet ports; dual USB
- 32MB of application Flash, 2MB of Bootable Flash
- Onboard 2.5 inch IDE Hard Disk Drive (Optional)
- Optional triple 66MHz, 64-bit PMC module
- Support for VxWorks® and Linux®

V169 Single Slot PMC, Pentium® M VME SBC

- Up to 2GHz+ Pentium® M processor
- Up to 4GB of DDR memory
- Ultra-low power requirements as low as 18W
- Triple local PCI buses
- Dual Gbit Ethernet to rear I/O; one 100baseT to front panel
- Ultra SCSI-320 with differential outputs
- Ultra high performance dual display video with 64MB RAM
- 2D/3D video acceleration with OpenGL® and Direct-X® support
- Four USB 2.0 ports; Three 1394B Fire-Wire ports

- One 64-bit 33/66-MHz PMC site
- Supports one onboard 2.5" IDE HDD/Flash/CF drive
- 32MB of Disk-On-Chip (Optional)
- 4MB BIOS Flash with Power-On-Self-Test functions
- Triple PMC expansion module with two independent PCI-X buses
- Supports Windows®2000/XP, VxWorks®, Solaris®x86, QNX® and Linux®

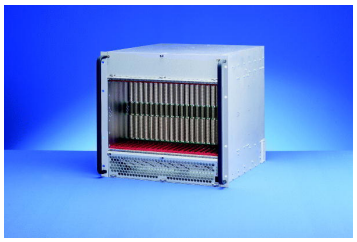
Story ID 6

4U, 7U, 8U, 10U VME64x Chassis from SCHROFF

Schroff has completed a highly flexible VME64x chassis range with the introduction of an 8U chassis. All chassis include a health monitoring unit that controls and indicated 4 DC voltages, fan failures and over temperature. All systems can be configured with backplanes from 5 slot to 21 slot and power supplies ranging from 400W to 1000W.

The recently added 8U chassis has the following features:

- 8U high; 19" wide; 412mm deep (450mm with front handles)
- Up to 21 slot VME64x Backplane with P0, with auto daisy chaining
- 600W power supply ; wide AC input; 3.3 V/60 A, 5 V 60 A, 12 V/10 A, -12 V/5 A



- Rear Card cage for 21 Rear I/O Transition modules
- Front removable fan tray with dust filters
- 3 high performance fans @4.62m³/min each
- Display for 5V; 3.3V; 12V; -12V; Fan Fail; Over Temperature
- Health Monitoring Module controls DC voltages, fans and temperature.

Story ID 7

Please email us the Story ID for more information.