Figure 4. Virtualized multi-processing with mixed operating systems
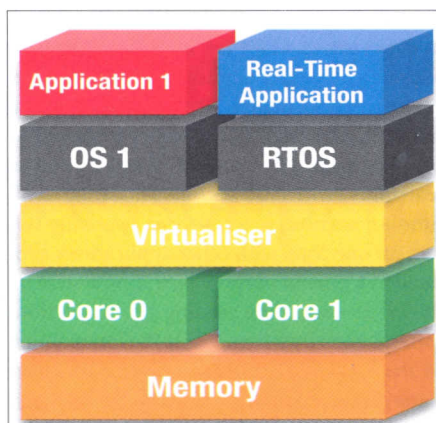

Figure 5. Virtualised multi-processing with real-time modifications
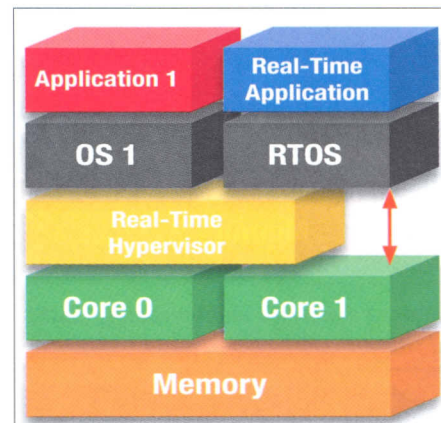

Figure 6: Real-time hypervised multi-processing: true real-time performance

(Procelerant IS) for industrial control applications. This Procelerant IS supports Microsoft Windows or other general purpose operating systems, such as Linux, and the Microware OS-9 operating system running concurrently on Intel Core 2 Duo COM-Express modules or single-board computer modules, to control general purpose and real-time tasks for industrial automation.

Communication for the control functions is provided by an EtherCAT fieldbus module connected to industrial control devices driven by OS-9. This platform successfully enables the following functional requirements: an HMI

running under Windows or another general purpose operating system is run on one CPU core, a trusted, secure and reliable real-time operation is run on another core in the same system, a real-time multi-core system-partitioning function is provided to isolate different operating systems from each other over different cores, and I/Os are also dedicated to each of the operating systems, and a real-time fieldbus, such as EtherCAT, CANbus or ProfiNET, is integrated for the control of I/O devices. In many control applications in industrial environments today, traditional PCs are connected to dedicated control systems via various I/O communication infrastructures,

mostly non-standard custom-engineered systems. As ever, custom engineering results in higher project costs, a longer time to market and the burden of supporting the system through the whole of the product's lifecycle.

By contrast, the Procelerant IS offers an integrated solution to provide the same functions in a single system, using standardised compute and communication platforms, and thus delivers reduced development and support costs while accelerating time to market. Via various Procelerant IS options, existing applications developed for Windows/Linux or OS-9 can be easily ported to the new system without major changes. ■

Product News

■ Trenz : serial communication router for industrial market

Trenz Electronic now supports the NoMaTronics magiplex8 a multi-port serial communication router (non-blocking crossbar-switch, n x n matrix-switch). IO's include 6 x RS-232 (screw terminal), 2 x RS-232 / RS-422 (screw terminal),1 x RS.232 (D-Sub 9), 1 x CAN (screw terminal) physical layer + embedded Linux driver. Each serial communication port can be configured as input / output / idle. A version with galvanic isolation on each port is available.
News ID 1078

■ Avalue: economic Touch Panel PC series

Avalue provides a new PPC touch panel PC series, which adopts VIA or Intel branded processors and fanless thermal design. The PPC series features 22' WXGA / 17' SXGA / 15XGA' TFT panel, onboard Intel Atom N270 1.6 GHz CPU and VIA Eden V4 ULV 1 GHz CPU options, Intel 945GSE Chipset and VIA CX700M Chipset options and one SODIMM up to 1 GB DDR2 SDRAM.
News ID 246

■ Janz: emVIEW systems support CoDeSys Embedded controller

Janz announces that the compact systems emVIEW support CoDeSys, a IEC 61131-3 programming environment, allowing the systems to become even more versatile control systems, with improved display information and monitoring. The controllers are based on ARM and X86 architectures with scalable processor performance from LX 800 up to Core2Duo technology.
News ID 1085

■ Brainboxes releases 4 port RS422/485 PCI Express boards

In addition to the 1 & 2 port versions Brainboxes has now released 4 port RS422/485 PCI Express products: the PX-335 - low profile 4xRS422/485 1MBaud and the PX-346 - 4xRS422/485 1MBaud.The RS422/485 boards provide higher speed operation and connections up to 4,000 feet. The cards have 128 byte FIFOs, 1 MegaBoard data transfers, with on board Hardware and Software flow control. RS422 and RS485 are bus systems and up to 32

standard load or 128 low load devices per port can be connected. RS422 is supported with dedicated pairs for TxD, RxD, RTS and CTS signals. RS485 systems are supported in both Full Duplex mode using 2 pairs of wires and in Half Duplex mode using 1 pair of wires.
News ID 1048

■ RadiSys: ATCA SBC with Xeon processor for 4G market

RadiSys releases its Promentum ATCA-4500, a new AdvancedTCA single board computer utilizing the new Intel Xeon processor 5500 series. The ATCA-4500 combines high performance with large memory capacity and expansion flexibility to address advanced control, gateway and telecom server functions for a broad set of 4G applications including Long-Term Evolution, WiMAX, NMS, and IMS. RadiSys' ATCA-4500 has been optimized to meet Telecom Equipment Manufacturer requirements for easily integrating into an existing ATCA chassis and for supporting multiple storage options and OS virtualization.
News ID 1165