

ment nor any software to buy and constantly upgrade. RTnet products are based on the very simple concept of using a high-speed, fiber-optic network board as a memory device, a PLC accelerator, or as an extremely high-performance database sharing network. Products from VMIC's RTnet family have been proven in aircraft and nuclear power plant simulation, and in industrial applications including aluminum rolling mills, test and measurement applications and high-speed radar and missile systems.

VMIC's RTnet products allow data to be shared among as many as 256 independent systems (nodes). Reflective Memory technology, when used as a database sharing network, allows PLCs, CPUs, and other controllers to gather, collate, and distribute information to any node on the ring without the compatibility problems incurred when using dissimilar systems.

RTnet products create a real-time, memory-based network which transfers all data to a node's local memory where it is simultaneously stored in that board's dual-port memory and sequenced out to all the other nodes' memory. There are no software delays and minimal hardware delays associated with the data transfer. The VMIC 5588 family of fiber-optic RTnet products take only 700 ns per node for the data to be stored in and transmitted out of each node; whereas, the VMIC 5576 family of RTnet products have a latency of 1,200 ns. Using RTnet products in distributed multiprocessing systems brings the level of performance to heights not possible with traditional off-the-shelf communication technologies.

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Positions Available

A member company has the following opportunities available. Interested parties will be directed through VITA at 602-951-8866.

Senior Pre Sales Technical Support Engineer- Situated in the Boston area, you will be responsible for ensuring that the necessary level of technical support required to close business is provided to the sales force anywhere in North America.
Duties: Directs, develops, motivates, trains and manages all Pre Sales engineers in North America -- Directly supports the pre sale activity on the East Coast. -- Develops, with the help of others, technical presentations suitable for use by pre sales engineers to educate sales representatives and customers. -- Ensures the availability of all documentation required for product roll out including data sheets, manuals, Web site material, and all other technical collateral material. -- Prepares product positioning and competitive analysis material for use by Sales and Marketing. -- Supports sales efforts through: technical presentations, responses to technical inquiries and supporting customers on system / application design. -- Benchmarks customer supplied programs and supervises Company benchmarks. Also tunes system for optimal performance. -- Supports trade show activities and conducts demonstrations to stimulate interest in Company's products. -- Works with Marketing on new product roll outs by tracking new product plans and status. -- Provides technical product feedback from customers and from product information to engineering and product planning. -- Assists on in-house system management and in-house applications installation, working with post sales technical support. Experience with real time embedded computing either digital signal processing or single board computing. VME experience is highly desirable as is knowledge of real time operating systems such as Lynx and / or VxWorks. Knowledge of PowerPC is a plus for this position.

Software Systems Engineer- Situated in Silicon Valley, you will be responsible for ensuring that the individual needs of our customers are met through the application of software tools, company knowledge and individual software development expertise.

Duties: Porting of operating systems to our platforms -- Generation of BSPs (Board Support Package) for our products -- Level 2 support for customers working closely with the post sales engineer -- Custom development (device drivers, benchmarks, etc.) working closely with the pre sales engineer -- Implementation of system administration tasks as required
Support of pre sales presentations as required.

Experience with real time embedded computing either digital signal processing or single board computing. Strong track record of software development accomplishments. VME experience is highly desirable as is knowledge of real time operating systems such as Lynx and / or VxWorks.
Knowledge of PowerPC is a plus for this position.

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Mixing Different Address and Data Widths

The VMEbus specification allows different address and data widths to be used based on an application requirement. While all combinations are possible, certain combinations are more common than others. For example, A16/D8(O) is common for simple I/O boards while A32/D32 and A32/D64 are common for high performance SBC modules. As stated earlier A24 is usually found only on older 6U modules and is quickly being replaced by A32.

Regarding interoperability between modules with differing address and data capabilities, the VME64 specification states the following:

RULE 2.76 D16 Slaves MUST include D08(E0) capability.

RECOMMENDATION 2.3 D16 Masters should include D08(E0) capability.

RULE 2.77 D32 and MD32 Slaves MUST include D16 and D08(E0) capabilities.

RECOMMENDATION 2.4

D32 and MD32 Masters should include D16 and D08(E0) capabilities.

RECOMMENDATION 2.5

MBLT Masters should include D32, D16 and D08(E0) capabilities.

Manufacturers must follow RULES to be in compliance and should follow RECOMMENDATIONS to offer optimum interoperability.

Summary

The VME64 specification provides a variety of data transfer capabilities from single cycle 8 bit transfers to multi-cycle 64 bit transfers. In addition, address spaces from 16 bits to 64 bits provide complete flexibility while reducing design complexity. With these capabilities the VMEbus can meet a wide range of system requirements.

Welcome New Members

VITA appreciates the continued support of its member companies. The following companies have become VITA members in recent months. Welcome!

APEX Signal Corporation

Ronkonkoma NY

Applied Microsystems Corporation

Redmond WA

Communication Automation Corp.

Allentown PA

ELTA Electronic Industries Ltd.

Ashdod ISRAEL

Panduit Corporation

Burr Ridge IL

To discuss the many benefits of VITA membership, contact our Executive Director, Ray Alderman at (602) 951 8866 or email: exec@vita.com