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- [Contact](#)  
- [FAQ](#)  
- [Advertise](#)  
- [Site RSS](#)  
[Discussions](#)  
[Journals](#)  
[Messages](#)  
[Topics](#)  
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[Past Polls](#)  
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## Ciara Technologies: Scalable Fault Tolerant

posted by [deadline](#) on Wednesday November 17, @08:02AM  
from the **only-19000-?** dept.

[deadline](#) writes "*Last week at SC04, Ciara Technologies unveiled a new cluster architecture capable of scaling to over 19,000 Intel EM64T Xeon processors. The technology uses a single CPU motherboard and infiniband to build a scalable and fault-tolerant cluster. Ciara has partnered with Intel and Raytheon on the system integration end and have leveraged their domain expertise to bring this system to market.*" Click Read More for the full release.

### Ciara Technologies Unveils Powerful New Cluster Architecture Capable of Utilizing up to 19,440 Intel(R) EM64T Xeon(tm) Processors

VXR-3DT Sets New Standard For Commodity Linux Clusters Providing Users With Affordable, Scalable and Fault-Tolerant High-Performance Computing

Montreal, Canada - November 8, 2004 - Ciara Technologies, a leading provider of high-density rack-mounted computer servers and supercomputer clusters, today announced the availability of the VXR-3DT(tm).

The VXR-3DT is an innovative high-end computer architecture that can scale from 16 up to 19,440 Intel(R) Extended Memory 64

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Technology Xeon(tm) processors while providing more than 140 TeraFLOPS of computing power with integrated InfiniBand\* interconnect. The VXR-3DT gives users access to an extreme high-performance computing (HPC) solution that offers the best price/performance ratio. This is possible due to the innovative architecture of VXR-3DT being built from commodity off-the-shelf hardware and networking components as well as incorporating the Linux operating system. The system is scheduled for general availability in late 2004.

"Today, many businesses are building their own Linux clusters using off-the-shelf components," said Patrick Scateni, VXR-3DT Co-creator and Director of Business Development for Ciara Technologies. "The problem is, how do you maintain and support these clusters once operational? With the VXR-3DT, we've taken all the guesswork out of high-performance computing as a result of the reliability. You don't need an army of technicians on standby. When a problem occurs you merely replace and switch the defective component without ever taking the system off-line or losing any data. It's that simple."

The VXR-3DT nodes are a 100 percent commodity-based building block with dual-rail 12x InfiniBand distributed fabric and InfiniBand natively attached RAID storage. The nodes are interconnected through high-speed, low-latency 12x InfiniBand network in a 3D Torus, Dual Rail Architecture providing more than 3GB/s of I/O fabric bandwidth per node, with no single point of failure in the entire system.

Ciara Technologies partnered with industry heavy weights such as Raytheon IIS, Intel, Engenio and, Mellanox who have expertise in high-end High Performance Computing systems, microprocessors, modular storage systems and InfiniBand interconnect solutions. Raytheon Intelligence and Information Systems in Garland, Texas, has developed the integrated, topology-aware

cluster management suite, while Ciara in Montreal, Canada, conducted the hardware design and integration for the VXR-3DT hardware components. Ciara will manufacture and sell the cluster systems under a license agreement with Raytheon. Raytheon will sell and integrate these systems for its federal and defense clients.

VXR-3DT(tm) is an ideal solution for markets that require access to affordable HPC power including; virtual prototyping, signal processing, financial services, data mining, petro-chemical and pharmaceutical research, bio technologies, bio engineering, genomic research, image processing, high-end video editing, post-production and academic or governmental organizations looking to conduct "pure" research.

Product highlights on the VXR-3DT include the following:

- 100 % commodity Linux cluster delivered and supported by leading industry veterans
- Unique Linux cluster architecture with dual-rail 12x InfiniBand distributed fabric
- InfiniBand natively attached RAID storage
- No single point of failure anywhere in system
- Processor per Rack 160
- Initial Processor Speed (GHz) 3.6
- Type of Memory DDR2 400 ECC/Reg
- Memory per CPU 16GBytes
- Total CPUs 19,440
- Total Memory 311TBytes
- Total Storage Capacity (Max. I/O BW) 650TBytes
- Compute Rack (Max.) 132
- System Performance Linpak Rmax (TFlop/s) 140
- System Performance Estimated Linpak Rpeak (TFlop/s) 108
- Maximum I/O Bandwidth (1300 I/O Ports) 2.6TBytes/s
- Maximum Fabric Bandwidth (18x15x18) 3.9TBytes/s

- Surface for Compute System  
(Square/feet) 2,240

"The VXR-3DT is a significant breakthrough because it helps bring fault tolerant, extreme scalability and ease of use high performance computing to the masses," said Richard Libby, HPC Technical Marketing Engineer for Intel Corp. "Intel's involvement with Ciara demonstrates the type of innovation that's possible when pooling market expertise across various disciplines. With VXR-3DT the sky is the limit in terms of high performance computing architectures and research possibilities."

About Ciara Technologies:

Ciara Technologies is a world-class computer systems manufacturer. Ciara designs, develops, manufactures, markets, services, and supports a variety of computer systems including graphic workstations, rack-mount and tower servers, networked storage and the newly acclaimed VXRACK(tm) and VXR-3DT(tm) Cluster Technology. The company's state of the art supercomputer cluster is based on the Intel IA32, EM64T and IA64 architectures and utilizes Linux operating systems. We are proud to be recognized by Intel as an "Intel Premier Provider". Choosing Ciara is choosing a single point of contact for all your IT requirements. All our products are built under the ISO 9001 standards and regulations. The growth of Ciara enabled the company to move its 300+ employees, in February 2003, to an ultra-modern plant of 576,000 square feet. Ciara now has the capability of producing more than 500,000 units per year.

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