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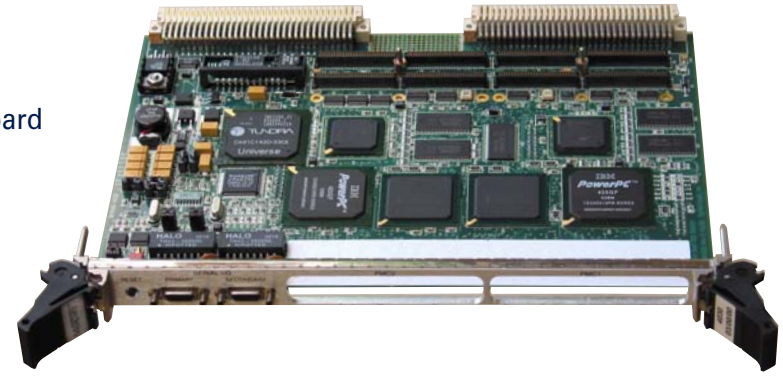
Find the *Mercury Computer Systems MYRIAD-4030* at our website: ***Click HERE***

DATASHEET

MYRIAD-4030 VME64 Dual PMC Carrier Board

High-Throughput I/O Subsystem

- Two 64-bit, 33-MHz PMC sites on one 6U VME board
- 256 MB of onboard high-speed SDRAM
- Replaces SBC as AAA host computer
- DX API support
- Level 1 rugged



The RACE++ Series MYRIAD™-4030 PMC carrier board from Mercury Computer Systems provides two 64-bit PMC sites on a single-slot VME 6U board with two onboard RACE++® interfaces. When configured with ANSI-standard PMC modules, the MYRIAD-4030 is ideal for many data acquisition applications, where an I/O subsystem with high throughput capability is essential.

Two 267 MB/s RACE++ Ports

The RACE++ Series MYRIAD-4030 offers two completely independent RACE++ ports, each capable of full-bandwidth transfers, and of utilizing separate PCI segments to eliminate bandwidth sharing. The two processors communicate directly with each other over the PowerPC® external peripheral bus without affecting data transfers over the main PCI buses. Three onboard PCI bus segments, linked by bridges, provide additional communications flexibility.

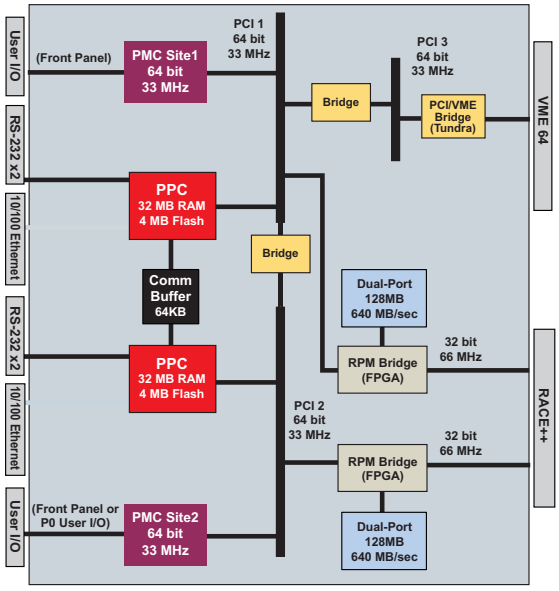


Figure 1. *RACE++ Series MYRIAD-4030 Board Architecture*

Two PowerPC 405GP Processors per Board

The base configuration provides two 250-MHz PowerPC® 405GP processors, each with 32 MB of SDRAM. Each processor is supported with 4 MB of flash-based memory, allowing custom VxWorks® applications to be incorporated with a board-level support package available from Mercury.

AAA Host-Qualified

The MYRIAD-4030 can act as the host processor in a VME system. It provides full MCOE™ API support for DMA transfers to or from compute nodes over RACEway to compute nodes and comes in both commercial and rugged versions. AAA host support provides a cost-effective alternative to a single-board computer (SBC), while freeing a system slot for more I/O. It also allows customers to have direct RACEway connectivity between the host processor and CEs.

Optimized for Real-Time Applications

The MYRIAD-4030 carrier board is optimized for real-time applications requiring high bandwidth and a high degree of functional flexibility. Applications include tactical reconnaissance, radar, and sonar. The availability of two 64-bit PMC sites enables the user to deploy some of the latest I/O control technology.

Direct Low-Latency Transfer to Storage

The RACE++ interface is provided by an RPM bridge, which also incorporates 64-bit, 33-MHz PCI and a 640 MB/s memory interface in a single chip. The RPM bridge can simultaneously transfer data between memory, PCI, and RACE++ at full bandwidth. RACEway devices can also master PCI transfers through the RPM.

Product Options

Mercury's fully integrated solutions incorporate ANSI-standard technologies and onboard firmware. Several PMC options are available to enhance performance, increase throughput, lower latency, and increase functionality including Fibre Channel interface, video frame buffer, Gigabit Ethernet interface, SCSI, IEEE-1394 (FireWire) DCAM, and recorder interfaces.

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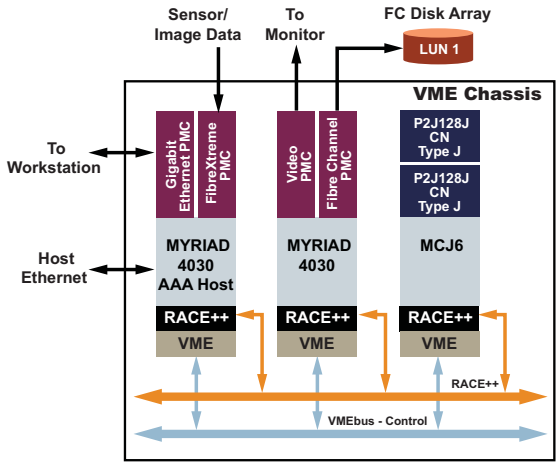


Figure 2. *MYRIAD-4030 sample application*

High-Speed, Real-Time Storage

A RACE++ Series MYRIAD-4030 carrier board configured with two ANSI-standard Fibre Channel cards can handle transfers at up to 500 MB/s. Simultaneously, it can move raw data from RAID or JBOD devices to compute environments and processed data from compute environments to RAID or JBOD devices.

Configuring both PMC sites with Systran FibreXtreme® cards allows simultaneous, continuous input from two sensor channels and simultaneous, continuous output through two RACE++ ports to compute environments or memory. Providing such efficiency in a single 6U slot makes the MYRIAD-4030 carrier ideal for a variety of high-speed acquisition applications including telemetry and ground-based radar.

A configuration combining one ANSI-standard Fibre Channel card and one Systran FibreXtreme card offers a sophisticated I/O control solution. In this case, the RACE++ Series MYRIAD-4030 carrier can take sensor input using a lower-latency protocol, buffer it into the onboard high-speed SDRAM, and send to RAID or JBOD, as well as offload to tape or send to memory for processing. Transfers occur without data passing over the VMEbus or hitting the backplane.

The RACE++ Series MYRIAD-4030 carrier can also be purchased with bare PMC sites (ANSI-standard 32-bit or 64-bit), then configured with COTS and/or custom-designed PMC modules. Mercury's comprehensive VxWorks board-level support package makes it easy for users to then create custom control applications.

The RACE++ Series MYRIAD-4030 also provides a DX API that enables customization in the Mercury environment.

Level 1 Rugged

MYRIAD-4030 solutions are available in models that meet commercial and Rugged Level 1 environmental requirements. The addition of rugged support further adds to the breadth of applications addressable by the MYRIAD-4030. Systems including MYRIAD-4030 modules can be deployed in demanding airborne, shipboard, or land-mobile applications without additional modification.

Specifications

Hardware Specifications

Processor	Two 250 MHz PowerPC 405GP
Memory 32 MB SDRAM per processor 256 MB SDRAM for buffering 64 KB DPRAM	
Flash	4 MB per processor
Serial connections	Four RS-232 ports, two per processor
10/100 Base-T Ethernet connections	One per processor
Power requirements 3.5A at 5V (without PMC modules) 0.25A at 12V (without PMC modules)	
Physical size	6U x 160 mm Eurocard
Weight	16 oz

Environmental Requirements

	Commercial Version	Rugged Version
Temperature		
Operating	0°C to +40°C	-25°C to +55°C
Storage (ambient)	-40°C to +85°C	-55°C to +85°C
Relative humidity	10% to 90% non-condensing (commercial) 5% to 95% non-condensing (rugged)	
Altitude	0 ft to 10,000 ft	0 ft to 30,000 ft
Vibration (rugged version)		
Shock	50g z-axis, 80g x-,y-axis 11 msec. half sine	
Random	0.04 g^2/Hz, based on 20-2,000 Hz, 1hr/axis	
Airflow	200 LFM minimum at +55°C	

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1136.00E-0207-DS-myriad_4030

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