PPCM2

6U VME Single Board Computer

Features

- High performance 6U VME dual PowerPC® processing engine
- Two independent processing nodes
- StarFabric switched fabric support
- Fully rugged - air/conduction-cooled
- Extensive software support
- Key features:
  - Dual PowerPC 7448
  - Discovery III ISC
  - DDR SDRAM (133 MHz memory bus)
  - Two PMC sites
  - Two StarFabric ports
  - Two Gigabit Ethernet ports, four serial ports, two USB 2.0 ports

The PPCM2 further extends GE Fanuc Intelligent Platforms' XtraPower family of dual processor boards, offering high performance processing and I/O interfaces from two fully independent compute nodes. With enhanced high bandwidth inter-board communications via 2eSST VME and onboard StarFabric, PPCM2 is ideal for a wide range of compute-intensive, real-time applications.

Each compute node features the latest PowerPC 7448 processor and Discovery III Integrated System Controller supporting high capacity DDR SDRAM , Flash memory and NVRAM. In addition each node supports its own dedicated I/O resources including GPIO, Serial and Gigabit Ethernet plus its own PCI-X-capable PMC. Shared resources include further GPIO and USB 2.0 plus 2eSST VME and two StarFabric ports.

The PPCM2's loosely coupled architecture targets demanding real-time applications with each node running separate instances of the chosen operating system. Supported operating systems include VxWorks® from Wind River, LynxOS® from LynuxWorks and INTEGRITY from Green Hills Software. Mission-critical applications can also benefit from GE Fanuc Intelligent Platforms' comprehensive Deployed Test software for the PPCM2.

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Specifications

Processor
- PowerPC 7448 @ 1.4 GHz
- 1 Mbyte L2 on-chip cache

DDR2 SDRAM
- Up to 1 Gbyte DDR SDRAM with ECC

Flash Memory
- Up to 512 Mbyte Flash memory
- Write-protection options

Gigabit Ethernet
- Two 10/100/1000 BaseT ports

PMC Sites
- PCI-X capable PMC site

Serial I/O
- Two porst sync/async and software selectable to be RS232/422 or 485

NVRAM/Real-Time Clock/Watchdog/ETI
- 32 Kbyte non-volatile RAM with Autostore
- Real-Time Clock
- Watchdog timer
- Elapsed Time Indicator (records cycles and on-time)

Temperature Sensors
- CPU die and ambient temperature
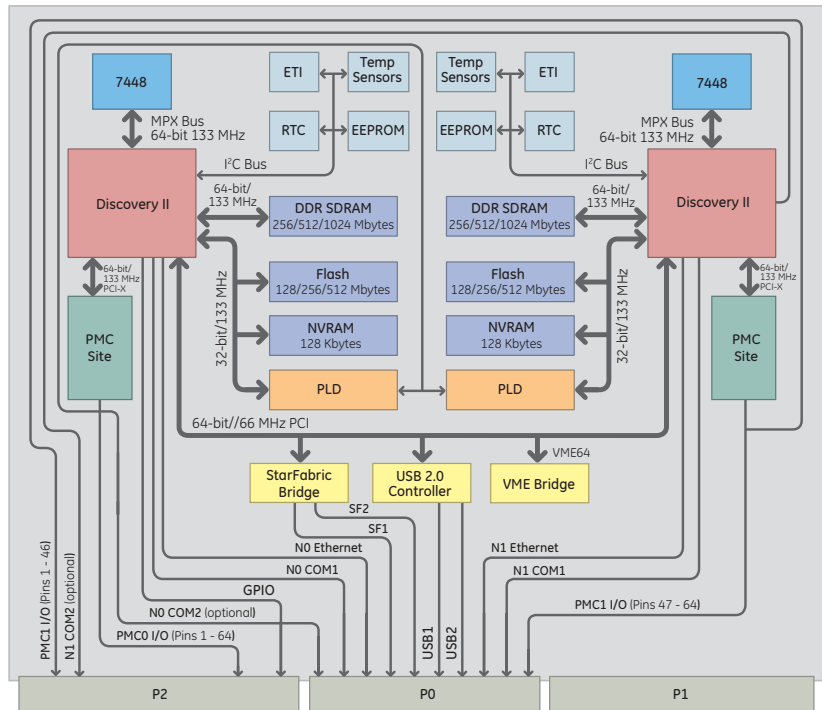
Shared Resources:

USB
- Two USB 2.0 ports

VME Interface
- Tundra Tsi148

Power Requirements
- +5 V and 3.3 V - required
- ±12 V - only if required by mounted PMC module

AXIS Multicomputer
Open Architecture, COTS Multiprocessor Solutions

Customer Application
AXIS Advanced Multiprocessor Integrated Software
Universal Interface Layer (UIL)
Board Support Package (BSP)
Built-in-Test (configurable POST)
I/O, SBCs, Multiprocessors, Fabric switches

Block Diagram

Environmental

	Level 1	Level 2	Level 3	Level 4	Level 5
Cooling Method	Convection	Convection	Convection	Conduction	Conduction
Conformal Coating	Optional	Standard	Standard	Standard	Standard
High/Low Temp Operational	0 to 55°C (300 ft/m)	-20 to +65°C (300 ft/m)	-40 to +75°C (600 ft/m)	-40 to +75°C At cold wall	-40 to +85°C At cold wall
Random Vibration	0.002g^2/Hz*	0.002g^2/Hz*	0.04g^2/Hz**	0.1g^2/Hz**	0.1g^2/Hz**
Shock	20g***	20g***	20g***	40g***	40g***

* From 10 to 2000 HZ   ** With a flat response to 1000 Hz, 6 dB/Oct roll-off from 1000 to 2000 Hz   ***Peak sawtooth 11 ms duration

About GE Fanuc Intelligent Platforms

GE Fanuc Intelligent Platforms is a leading global provider of embedded computing solutions for a wide range of industries and applications. Our comprehensive product offering includes many types of I/O, single board computers, high performance signal processors, fully integrated, rugged systems including flat panel displays, plus high speed networking and communications products. The company is headquartered in the U.S. and has design, manufacturing and support offices throughout the world. Whether you're looking for one of our standard products or a fully custom solution, GE Fanuc Intelligent Platforms has the breadth, experience and 24/7 support to deliver what you need. For more information, visit www.gefanuc.com.

Additional Resources

For more information, please visit the GE Fanuc Intelligent Platforms web site at:

www.gefanuc.com

AXIS Enabled Hardware