G4DSP-XD3

Quad Freescale™ MPC7448 VME Multiprocessor with StarFabric

Features

- Four Freescale™ MPC7448 processors
- 4 banks PC266DDR SDRAM, up to 2 GBytes total
- Two StarFabric ports to P0
- PCI-X to all nodes and both PMC sites
- Gigabit Ethernet to all nodes
- Four serial ports
- Two PMC sites
- Node management controller
- Rugged 6U VME form factor for air and conduction cooled systems

Software

- AXIS Advanced Multiprocessor Integrated Software
- GE Fanuc Built-In-Test (BIT) for PowerPC®
- BSPs for VxWorks®, LynxOS® and Integrity

G4DSP-XD3 is the latest PowerPC® multiprocessor in a product family that has been shipping for more than five years. Aimed at rugged defense and aerospace applications either as a stand alone card or as part of an integrated AXIS™ Multicomputer, G4DSP-XD3 is a tried and tested solution offering state of the art performance and flexibility.

G4DSP-XD3 boasts four MPC7448 CPUs with AltiVec SIMD engines in a COTS, 6U, VME form factor for air and conduction cooled systems,

Each 7448 node has one bank of 256 or 512 Mbytes of PC266 DDR SDRAM for maximum performance.

System densities of 4 to 32 processors per enclosure are possible with high-speed fabric interconnect to all nodes over StarFabric.

The bridged PCI-X architecture supports maximum bandwidth between nodes, PMCs, and the back plane. Each processor node has a Gigabit Ethernet port for development, system management and data flow.

Layered software support for industry-leading COTS real-time operating systems is standard. BSPs for VxWorks, LynxOS and Integrity are available along with GE Fanuc's Built-In-Test (BIT) for PowerPC.

AXIS Advanced Multiprocessor Integrated Software provides a suite of fully integrated modules for system development, visualization and deployment.

AXISView provides an intuitive GUI for system visualization and productivity tools that greatly reduce development time and time to market.

AXISLib VSIPL and RSPL optimised math and function libraries provide a wide range of optimised functions for the PowerPC AltiVec platform.

AXISFlow supports high throughput, low latency, inter processor communication (IPC) across all system nodes to maximize system performance, and increase flexibility in the design of the most demanding signal and data processing applications.

G4DSP-XD3 Quad Freescale MPC7448 VME multiprocessor with StarFabric

Specifications

Form factor
- 6U VME

Processors
- Four MPC7448 clocked at 1 GHz

Memory
- Four banks PC266 DDR SDRAM
  - 256 MBytes per node (standard)
  - 512 MBytes per node (optional)
- 64 MByte FLASH per node (256 MByte total)

Bridged Fabric Architecture
- StarFabric
  - Two StarFabric ports to P0
  - Bridged to internal PCI-X ring

Network
- 4 Gigabit Ethernet ports
  - One port to each Disco3 bridge

Node Management Controller
- Inter-node and inter-board
  - Time stamp, synchronization
  - Mail boxes, semaphores
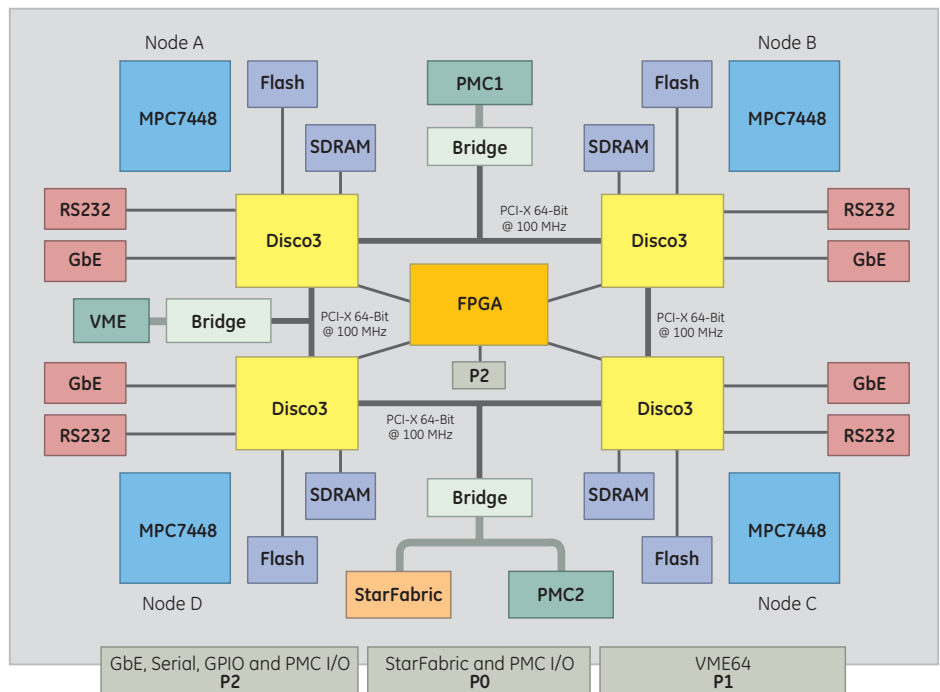
Serial
- 4 RS232 ports to P2 connector

Ruggedization
- Levels 1 to 5

Software
- GE Fanuc BIT
- BSPs for LynxOS, VxWorks and Integrity
- AXIS Advanced Multiprocessor Integrated Software

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

Ordering Information

G4DSPXD3-vwBy 6U VME QUAD PowerPC processor with 4 x MPC7448 @ 1GHz, loosely coupled PCI-X architecture, DDR SDRAM, 256 MBytes FLASH, 128 kBytes EEPROM, 2 bridged PMC sites, 2 StarFabric ports, 4 gigabit Ethernet and 4 RS232 ports. Level 1 air cooled build.

G4DSPXD3-11By Default stock item

Other options include:

v = 1 to 5 (air and conduction cooled to level 5 build)
w = 1 (1 GByte DDR SDRAM) or 2 (2 GByte DDR SDRAM)
y = 6 (BIT & PPCBoot) or 8 (BIT & VxWorks 6.x BootROM)

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.

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Additional Resources

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

www.gefanuc.com