

CPCI-9120

Scalable Network Processor Blade

DATASHEET

KEY FEATURES

Single IXP2400 NPU with core frequency at 600 MHz

Up to 1GB of DDR SDRAM with ECC using standard SO-DIMM modules

Up to 64MB of QDRSRAM with parity

Up to 32MB of boot flash and 32MB of user flash

LA-1 mezzanine interface for coprocessor or additional dual channel SRAM

NPF compliant SPI-3 media switch fabric mezzanine interface supporting 4.2Gbps of full duplex fabric bandwidth

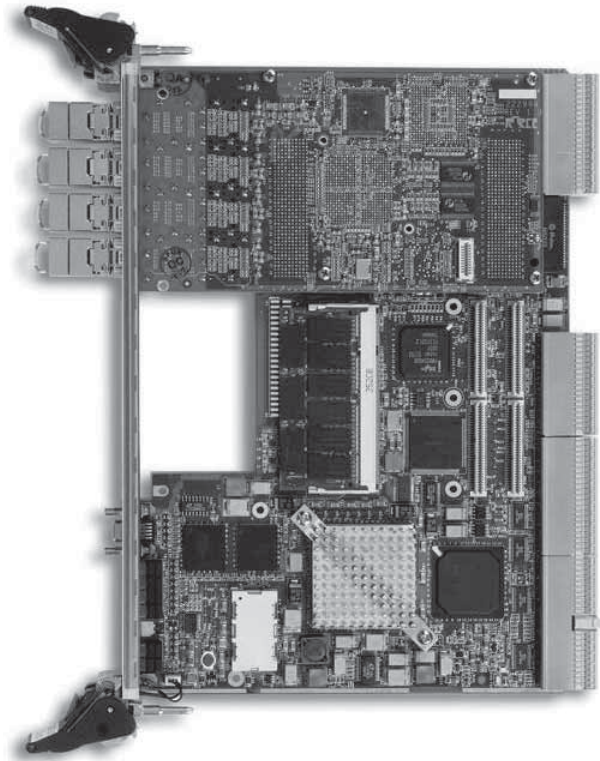
Processor PMC 64-bit/66 MHz mezzanine interface for additional control plane processing

PICMG 2.1, 2.9 and 2.16 compliant

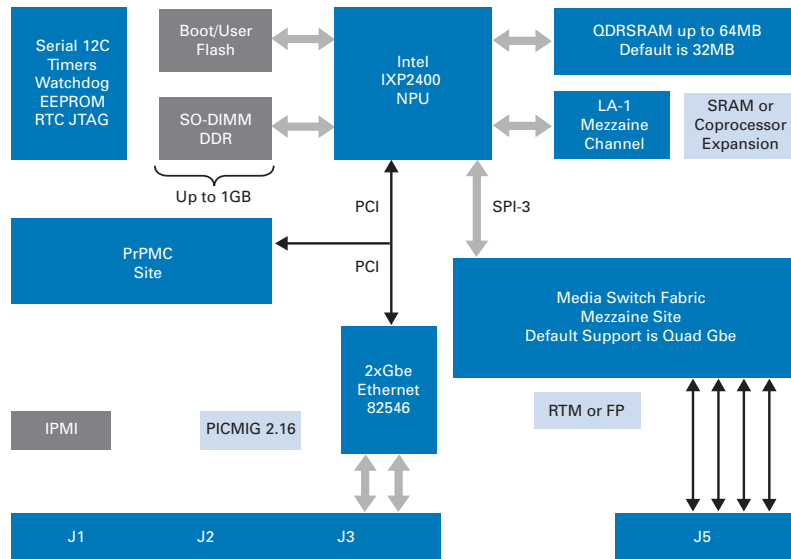
The Motorola CPCI-9120 SBC provides multiple performance and cost-scalable platform configurations with the high performance Intel® IXP2400 network processor unit (NPU), LA-1 mezzanine expansion, SPI media switch fabric mezzanine, and processor PMC site which are designed into it.

This modular and flexible CPCI-9120 design features expertly conceived application-specific mezzanine sites all within a single slot. This allows for a broad range of solutions

from high density telecom central office (CO) to datacom-oriented IP appliances. With robust and growing third-party software availability for the IXP2400 NPU, the CPCI-9120 is an ideal choice for configuring fast time-to-market, highly reliable Internet Protocol (IP) packet-processing platforms for multi-Gbps wireline applications such as network gateways, IDS/IPS, firewalls, and wireless LAN switches.



The Motorola CPCI-9120 CompactPCI® (6U) network processor single-board computer (SBC) brings new levels of packet processing flexibility and power to embedded telecommunications and data communications applications.

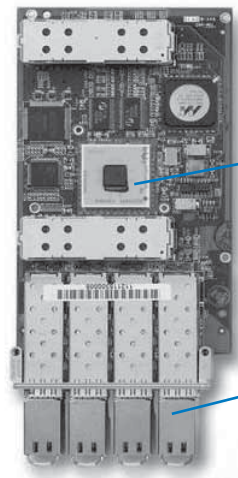


HARDWARE OVERVIEW

MEDIA SWITCH FABRIC (MSF) MEZZANINE INTERFACE

Different network processing applications require different types of media interface types. The CPCI-9120 SBC places the streaming media interface on a mezzanine in such a way that many interface options can be deployed on the same baseboard in the future. This well-thought out architecture allows for building block reuse providing platform investment protection.

The MSF mezzanine interface supports up to 4.2Gbps of full duplex bandwidth. Support options could include UTOPIA 1/2/3, SPI-3 (POS-PL3), and CSIX over SPI-3.



Intel IXP1104 Quad GbE Mac

SFP interfaces supporting SERDES and SGMII, allowing:

- Standard product supports Copper 1000BaseT
- Optional OEM variants possible with Optical 1000BaseSX, LX and ZX

LA-1 MEZZANINE INTERFACE

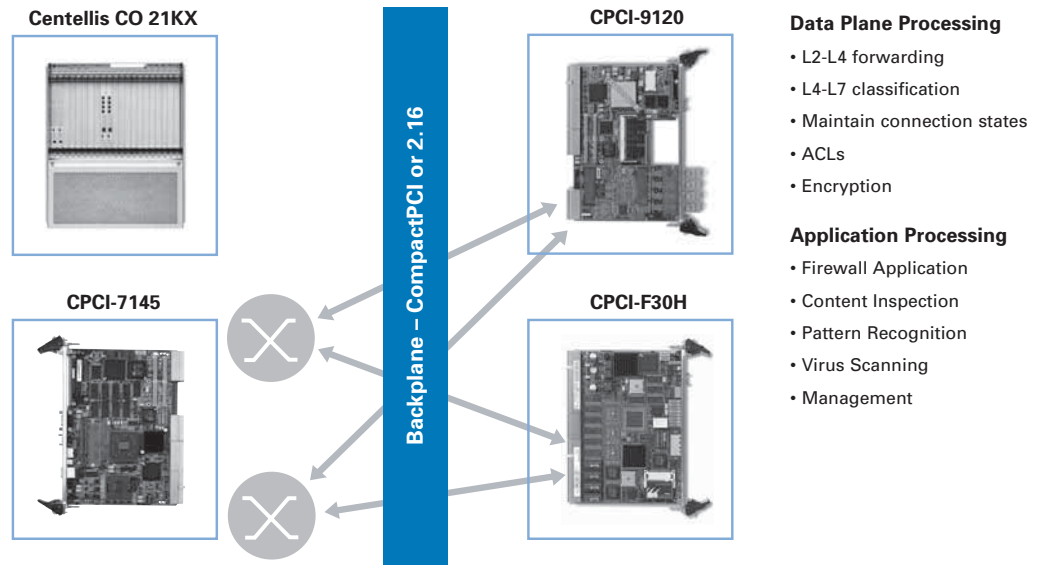
For many customers, an application-specific coprocessor or FPGA expansion capabilities are required for streaming interfaces or look-aside interfaces for ACL lookup and Network Search Engine type functions.

CPCI-9120 allows coprocessor expansion on streaming or look-aside interfaces through the use of a NPF compliant LA-1 mezzanine card interface. The LA-1 interface supports up to 1.6GB/s QDR SRAM memory bandwidth/channel and could interface with coprocessor or additional SRAM mezzanine modules.

PLATFORMS

The CPCI-9120 is compliant with Motorola's modular system-level building blocks that also support the PICMG 2.16 CompactPCI Packet Switch Backplane standard.

Example of a generic functional PICMG 2.16 system partitioning with CPCI-9120



SOFTWARE SUPPORT AND PARTNERS

The CPCI-9120 blade comes with a MontaVista Linux Pro 3.1 Linux support package (LSP) or a VxWorks 5.5 board support package (BSP). Drivers for the GbE controllers and IPMI are incorporated. An IXP boot monitor BIOS is supplied, supporting network and flash boot and various diagnostic functions.

The CPCI-9120 is qualified to work with the latest Intel® SDK and the TejaNP software platform for the Intel® IXP2XXX Network Processor Family. The CPCI-9120 will have available working reference software for quick out-of-the-box deployment such as IPv4 forwarding.

HARDWARE SPECIFICATIONS

PROCESSOR

Single Intel IXP2400 600 MHz network processor
 Intel IXP2400 NPU supports eight multi-threaded Micro-Engines and a integrated Intel® XScale® core control plane
 64-bit/66 MHz PCI local bus interface

MEMORY

Up to 1GB of DDR SDRAM – standard product configuration default is 256MB
 Up to 64MB of QDRSRAM – standard product configuration default is 16MB
 Up to 32MB of boot flash and 32MB of user flash – standard product configuration default is 2MB boot flash and 16MB of user flash

I/O CAPABILITIES

Redundant Gigabit Ethernet link compliant to PICMG 2.16
 Standard product fast-path and slow-path I/O configurations:

- Four Gbe Fast-Path front I/O with two 2.16 Gbe Slow-path from Xscale
- Four Gbe Fast-Path rear I/O with two 2.16 Gbe Slow-path from Xscale
- Two Gbe Fast-Path rear I/O with two 2.16 Gbe Fast-Path

Single processor PMC 64-bit/66 MHz mezzanine site

OTHER FEATURES

IPMI baseboard management controller (PICMG 2.9)
 Watchdog timer
 Reset switch, status LEDs, hot swap LEDs

ENVIRONMENTALS

Operating temperature: 0° C to 55° C with forced-air cooling
 Storage temperature: -40° C to +85° C
 Relative humidity: 5% to 95% non-condensing
 Designed for NEBS Level 3

BOARD SIZE

160.00 mm x 233.35 mm
 Single slot 6U CompactPCI format

SOLUTION SERVICES

Motorola provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include global 24x7 technical support. Renewal services enable product longevity and technology refresh. And solution extras include enhanced warranty and repairs.

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CPCI9120-D0 01/06