



# Intel® NetStructure™ MPCHC5091 4U General Purpose Packet Switched Platform

## Introduction

The Intel® NetStructure™ MPCHC5091 4U General Purpose Packet Switched Platform is one of several telecom building blocks from Intel, providing OEM equipment designers with standards-based development solutions built on the PICMG\* 2.16 specification and the H.110 telephony bus. This high-density CompactPCI\* platform features seven node slots and one integrated layer 2/3 Ethernet switch slot, transversely mounted in a 4U enclosure, making it ideal for carrier-grade telecom and Internet applications. The MPCHC5091 platform is modular, scalable, and ready for immediate development. It is designed to interoperate with third-party components meeting the PICMG 2.16 specification.

Hot-swappable system components provide built-in redundancy to simplify replacement and minimize service time. An optional chassis management module enables customers to manage multiple single-board computers and conduct chassis diagnostics remotely for enhanced system reliability. The MPCHC5091 platform routes signals across the backplane without the use of cables, saving time in set-up, maintenance and repair, and reducing the thermal challenges of traditional cabling methods.

## Highlights

### Platform

- Rugged 4U, 19-inch rack-mount enclosure
- Efficient side-to-rear cooling to support high density

- Single PCI bus segment with support for 32-bit/33 MHz or 64-bit/33 MHz single-board computers and peripheral cards
- Single H.110 computer telephony bus on six peripheral slots
- Two load-sharing, hot-swappable 250W AC or DC supplies (optional third supply for N+1 operation)
- Designed for less-than-five-minute Mean Time to Replacement (MTTR) for all components

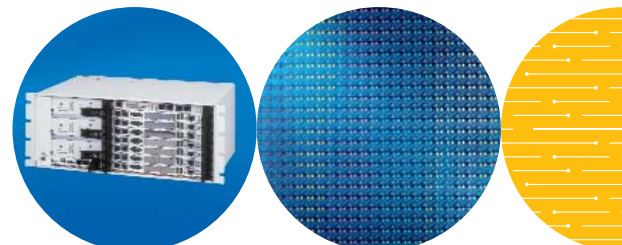
### Backplane Configuration

- Eight-slot (seven node slots and one dedicated switched fabric slot) backplane designed to the PICMG 2.16 specification
- Eight slots of rear-panel I/O accept IEEE\* 1101.11-style, 80 mm-deep transition cards
- PICMG 2.16 Ethernet support
- Configurable for 3.3V or 5V I/O operation

### Chassis Management Module (optional)

The Intel® NetStructure™ ZT 7102 Chassis Management Module, designed to IPMI 1.5 standards, monitors complete system status including sensors, fans, temperature and voltage. It communicates using an IPMB bus in a unique star topology to achieve comprehensive, lights-out management. An out-of-band 10/100 Ethernet port dedicates a network exclusively for management, thus avoiding impact to traffic on the primary network. (Please reference additional information at [intel.com/design/network/products/cbp/zt7102.htm](http://intel.com/design/network/products/cbp/zt7102.htm))

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### Ethernet Switch Board (optional)

The MPCHC5091 platform supports one switched fabric board designed to the PICMG 2.16 standard such as the Intel® NetStructure™ ZT 8102 Switch. This high-performance Managed Layer 2/3 switch features 16 10/100/1000 Mbps Ethernet ports for fast connection speeds. (Please reference additional information at [intel.com/design/network/products/cbp/zt8102.htm](http://intel.com/design/network/products/cbp/zt8102.htm))

### Order Configurations

- MPCHC5091AC: Includes two AC modular power supplies
- MPCHC5091DC: Includes two DC modular power supplies

Please reference the most up-to-date Order Configurations and Regulatory Compliance Specifications along with additional product information at [developer.intel.com/design/network/products/cbp/MPCHC5091.htm](http://developer.intel.com/design/network/products/cbp/MPCHC5091.htm)

### Specifications

**The Intel® MPCHC5091 platform is designed with the following standards:**

- CompactPCI\* Core Specification, PICMG\* 2.0 R2.1
- CompactPCI Hot Swap, PICMG 2.1 R2.0
- CompactPCI Computer Telephony, PICMG 2.5 R1.0
- CompactPCI System Management, PICMG 2.9
- CompactPCI Power Interface, PICMG 2.11
- CompactPCI Packet Switching Backplane Specification, PICMG 2.16
- IPMI 1.5 Specification

#### Power

- AC Input: 110 or 220 VAC (50 to 60 Hz)
  - Output<sup>†</sup>: 80A<sup>††</sup> @ +3.3VDC; 80A<sup>††</sup> @ +5VDC; 11A @ +12VDC; 1A @ -12VDC
  - DC Input: 36 to 60 VDC
  - Output<sup>†</sup>: 80A<sup>††</sup> @ +3.3VDC; 80A<sup>††</sup> @ +5VDC; 11A @ +12VDC; 1A @ -12VDC
- <sup>†</sup> Assumes only two supplies are operating. An optional third supply can be purchased to provide N+1 redundancy.  
<sup>††</sup> Total combined output from 3.3V and 5V not to exceed 80A

#### Environmental

- Temperature (non-operating): -40° C to +70° C
- Voltage: +/-5% with 50mV max ripple
- Temperature: +5° C to +40° C
- Radiated and conducted emissions shall not cause the system to fail any tests
- Humidity: 95% @ 40° C non-condensing

#### Physical

- Height: 7.0" (178 mm)
- Width: 17.2" (436 mm) without rack-mount flanges. Rack-mount flanges allow mounting in 19-inch racks.
- Depth: 12.25" (311 mm)
- Weight: 28.5 lb. (base configuration with two power supplies)  
Weight: 30.5 lb. (with optional third power supply and optional ZT 7102 management module)

### Intel Access

Developer's Site:

[developer.intel.com](http://developer.intel.com)

Networking and Communications Building Blocks:

[developer.intel.com/design/network](http://developer.intel.com/design/network)

Intel Documentation Center:

[www.intel.com/go/techdoc/](http://www.intel.com/go/techdoc/)  
(800) 548-4725 7 a.m. to 7 p.m. CST (U.S. and Canada)

International locations please contact your local sales office.

General Information Hotline:

(800) 628-8686 or (916) 356-3104 5 a.m. to 5 p.m. PST

For more information, visit the Intel Web site at: [developer.intel.com](http://developer.intel.com)

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