



Highlights

- >> Part of our Advanced Managed Platform Offering
- >> 12U, 19-Inch Rack-Mount Enclosure
- >> 21 Hot-Swappable, 6U, Standards-Based Slots
 - 18 node slots
 - No CompactPCI® bus
 - Two 10/100/1000 PICMG® 2.16 redundant fabric slots
 - Two 3U redundant PICMG 2.9 IPMI-based ISM slots in a single 6U slot
- >> Single H.110 Telephony Bus
- >> Up to 1300W Total Power and Cooling (e.g. 50W per node slot, 70W per fabric slot)
- >> Isolated Power Feeds
- >> Designed for NEBS Level 3 and ETSI Installations
- >> Five-Nines Availability
- >> IPMI Star Topology for Increased Reliability and Security
- >> All Field-Replaceable Units (FRUs) Serviceable from the Front (Except Rear Transition Modules)

The IPnexus™ CPC5086 12U General Purpose PICMG® 2.16 Platform is an extremely flexible, high availability platform, configurable for both compute-intensive and I/O-intensive applications. Part of the Advanced Managed Platform offering, it provides OEM equipment designers with a carrier-grade, standards-based, high availability computing platform for demanding, mission-critical applications.

The CPC5086 platform supports five-nines (99.999%) availability with built-in redundancy for active system components including Ethernet switches, intelligent shelf managers (ISMs), power supplies and fan trays. Redundant ISMs enable customers to manage multiple single board computers and conduct chassis diagnostics remotely for enhanced system reliability. Ethernet signals are routed across the midplane without the use of cables, saving time in setup, maintenance and repair and minimizing the thermal challenges of traditional cabling methods.

The CPC5086 platform does not include a CompactPCI® bus, ensuring that there are no compatibility issues with boards that may have conflicts with a PCI bus.

Midplane Configuration

The midplane supports up to 18 independent servers communicating over the PICMG 2.16-compliant Ethernet midplane (slots 3-20) and a single H.110 telephony bus spanning all 18 node slots. There are three V(I/O) planes that can be set separately for either 3.3V or 5V operation; two for each fabric plane and one for the 18 node slots plane.

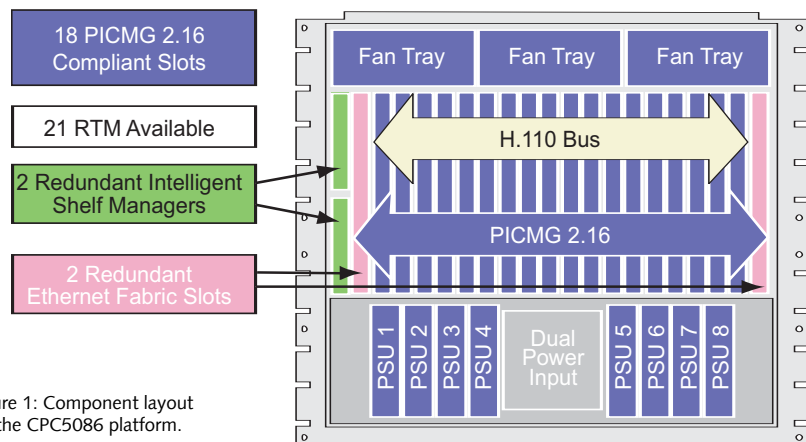


Figure 1: Component layout for the CPC5086 platform.

CPC5086

12U General Purpose PICMG® 2.16 Platform

Intelligent Shelf Manager

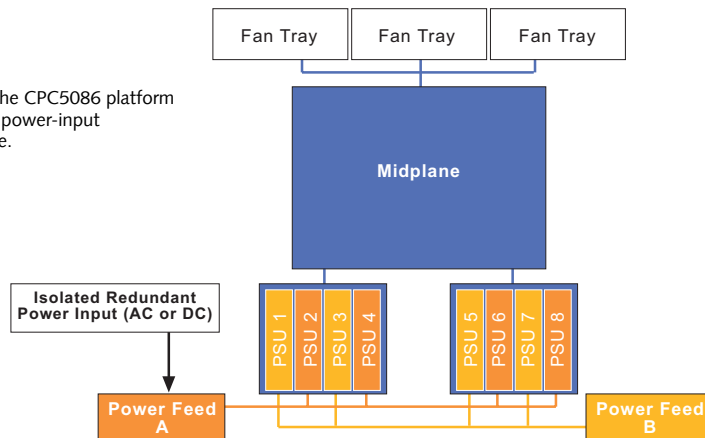
The CPC5086 includes two redundant IPnexus CPC7301 Intelligent Shelf Managers (ISMs) operating in active/standby mode. The CPC7301 is the central management component for all Performance Technologies' PICMG 2.16-compliant platforms. It implements the PICMG 2.9 specification for a standards-based interface, allowing management of third-party, IPMI-based products within an IPnexus platform. The ISM software interfaces are comprehensive, including a Web-based GUI, command line interface (CLI), SNMP and more. It communicates with components in the CPC5086 via point-to-point IPMB buses in a unique star topology to achieve secure, comprehensive, highly available management.

Redundant Power Subsystems Architecture

The CPC5086 platform supports a redundant, scalable power solution, accommodating up to eight 3U CompactPCI power supplies, divided into two separate power subsystems. This power architecture provides N+N redundant power supplies and receives input power from redundant DC or AC inputs.

This is critical in central office locations where two power plants deliver redundant DC input into high availability devices. These two power subsystems maintain isolation of these inputs (no diode OR'ing) to ensure that failure of one will not affect the power input of the other.

Figure 2. The CPC5086 platform redundant power-input architecture.



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Cooling Architecture

The CPC5086 can power and cool up to 1300W total. The platform houses three hot-swappable fan trays, serviceable from the front. Each tray includes three blowers and spans the distance from front to back of the chassis. The front blower cools the front card cage area and the rear blower cools the power supplies and rear of the card cage. The middle blower cools both areas, providing N+1 redundant cooling for the entire chassis (see Figure 3).

About Advanced Managed Platforms

Performance Technologies' Advanced Managed Platform products are built upon the intelligent AMP™ Architecture, which ensures standards-based, reliable and comprehensive management throughout all active platform components, including the power supplies.

CPC5086

12U General Purpose PICMG® 2.16 Platform

Product Interoperability

Processor and I/O Boards

- CPC5505: 1.6 GHz Intel® Pentium® M processor – Low Power, supports up to 2GB of DDR SDRAM, EIDE hard drive and PT7MC site in single slot
- ZT 5504eB: 1GHZ Intel® Pentium® III processor - Low Power, 512MB to 1GB ECC SDRAM, EIDE hard drive, SVGA
- ZT 5524e: Single or dual 1GHz Intel® Pentium® III processor – Low Power, SDRAM DIMM socket, single slot
- ZT 4901eA-1A: Mezz/bridge card for ZT 5524e, provides dual PMC sites and dual Fibre channel interfaces
- ZT 4807e: Rear panel transition board
- RTM4808A: Rear panel transition board

Ethernet Switches

- CPC6600: 24-port 10/100/1000 TX switch
- CPC4416F: 24-port 10/100 + 2-Port Gb TX switch

Management

- CPC7301: Intelligent shelf manager (ISM)
- RTM4820: ISM rear transition module

Power Supplies

- CPC6314A: 325W DC
- ZT 6303: 250W AC

I/O and Communication

- CPC358: 6U eight-port WAN communications adapter, Motorola MPC8255 PowerQUICC™II processor, V.35 / RS-530 / RS-449 / RS-422 / RS-232
- CPC388: 6U eight-port T1/E1/J1 telecom adapter, Motorola 8260 processor, H.110, hot-swap
- CPC396: 6U two-port T3/DS3 TDM/H.110 circuit switch, Motorola 8260 processor, single or dual H.110, hot-swap

Spares

- Filler panels - 18299 & 20424
- Air management blades - 20456
- Air filters - 20454
- Power supplies - ZT6303 & CPC6314
- Mounting brackets - A86496-004
- Fan tray - 20450

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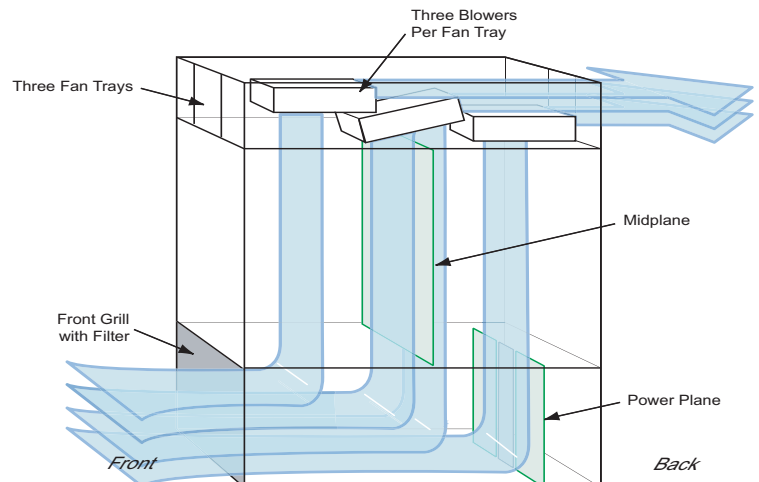


Figure 3: Airflow cross section/side view of the CPC5086 platform.



IPnexus™

CPC5086

12U General Purpose PICMG® 2.16 Platform

Ordering Information

The CPC5086 may be ordered with the following options:

>> Base Enclosure and Power Input Panel

- C1: AC input panel
- C2: DC input panel

>> Power Supplies

- P1: Six CPC6314 325W DC power supplies
- P2: Eight CPC6314 325W DC power supplies
- P3: Six ZT 6303 250W AC power supplies
- P4: Eight ZT 6303 250W AC power supplies

>> Intelligent Shelf Manager

- I0: No CPC7301A-1A Intelligent Shelf Manager
- I1: One CPC7301A-1A Intelligent Shelf Manager
- I2: Two CPC7301A-1A Intelligent Shelf Manager

>> ISM Rear Transition Module

- R0: No RTM4820A ISM RTM
- R1: One RTM4820A ISM RTM

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Specifications

The CPC5086 is compliant with the following:

- CompactPCI core spec. PICMG 2.0, R3.0
- CompactPCI hot-swap spec., PICMG 2.1, R2.0
- CompactPCI system management spec., PICMG 2.9, R1.0
- CompactPCI power interface spec., PICMG 2.11, R1.0
- CompactPCI packet switching backplane spec., PICMG 2.16, R1.0
- IPMI Spec., version 1.5
- Standard CompactPCI keying

Power

Input

- AC input: 110 to 220V AC (50/60Hz)
- DC input: -36 to -60V DC

Output

Power Supplies	+5V	+3.3V	+12V	-5V
Six 325W DC supplies (3+3)	90A	120A	15A	3A
Eight 325WDC supplies (4+4)	120A	160A	20A	4A
Six 250WAC supplies (3+3)	120A*		16.5A	4.5A
Eight 250WAC supplies (4+4)	160A*		22A	6A

* ZT 6303 AC power supply, the 5V and 3.3V rails share current

Physical

- Height: 12U, 21" (533mm)
- Width: 17.2" (436mm) without rack-mount flanges. Rack-mount flanges allow mounting to 19" racks
- Depth: 17" (431mm)
- Weight: 97.5 lbs. (44.2 kg)

Note: To provide proper cooling to the CPC5086, each unused slot in the chassis should be populated with an air management blade. All rear slots should be populated with a rear filler panel. See the list below for orderable components:

- To cover a single rear panel slot, use a filler panel that is 6U x 4HP (horizontal pitch=0.2") (Performance Technologies PN 18299).
- To cover six rear panel slots, use a filler plate that is 6U x 24HP (Performance Technologies PN 20434).
- To fill a front slot, use an air management blade that is 6U x 4HP (Performance Technologies PN 20456).
- To fill a power supply bay, use an air management blade that is 3U X 8HP (Performance Technologies PN 20455).
- To fill an ISM slot, use a filler panel that is 3U X 4HP (Performance Technologies PN 18309).

Regulatory Compliance

Designed for NEBS Level 3 and ETSI Installations

Safety

- UL/cUL 60950 Safety for Information Technology Equipment E179737
 - UL File Number E179737
- EN/IEC 60950 Safety for Information Technology Equipment
- CB Certificate and Report Scheme
- CE Certificate

Emissions Test Regulations

- FCC, Class B
- EN 55022/CISPR 22 Class B Radiated and Conducted Emissions Tests
- EN 55025/CISPR 24
- EN-61000-3-2 Power Line Harmonic Emissions
- EN-61000-3-3 Power Line Fluctuation and Flicker
- EN-61000-4-2 Electro-Static Discharge (ESD)
- EN-61000-4-3 Radiated Susceptibility
- EN-61000-4-4 Electrical Fast Transient Burst
- EN-61000-4-5 Power Line Surge
- EN-61000-4-6 Frequency Magnetic Fields
- EN-61000-4-11 Voltage Dips, Variation & Short Interruptions

Network Equipment-Building System (NEBS) Requirements

- GR-1089-CORE
 - Sect. 2 Electrical Discharge
 - Sect. 3.2.2 Radiated RF Emissions
 - Sect. 3.2.3 AC Line Conducted Emissions-Voltage
 - Sect. 3.2.4 AC & DC Line Conducted Emissions-Current
 - Sect. 3.3.1 RF Radiated Fields
 - Sect. 3.3.3 RF Common Mode
- GR-63-CORE issue 1
 - Sect. 5.1.1.1 Low-Temperature Exposure and Thermal Shock
 - Sect. 5.1.1.2 High-Temperature Exposure and Thermal Shock
 - Sect. 5.1.1.3 High Relative Humidity Exposure
 - Sect. 5.3.1 Handling Drop Tests-Packaged Equipment
 - Sect. 5.3.2 Unpackaged Equipment Drop Tests
 - Sect. 5.4.1 Earthquake Tests
 - Sect. 5.4.2 Office Vibration Test Procedure
 - Sect. 5.4.3 Transportation Vibration-Packaged Equipment
 - Sect. 5.6 Acoustic Noise Test