



Highlights

- >> **12U, 19-inch Rack-Mount Enclosure**
- >> **21 Hot-Swappable, Standards-Based Slots**
 - 18 node slots
 - Two 10/100/1000 PICMG® 2.16 redundant fabric slots
 - Two 3U redundant PICMG 2.9 IPMI-based intelligent shelf manager slots in one 6U slot
- >> **Multiple Midplane Configuration Options**
 - Two CompactPCI® bus segments with 32/64-bit, 33/66MHz bus support
 - Up to four hot-swappable Redundant Host slots for active/active or active/standby control plane operation
 - Operate as 18 independent PICMG 2.16 node slots
 - Single H.110 telephony bus
 - 21 rear panel I/O slots (18 node slots, two fabric slots and one RTM4820 ISM RTM slot)

This packet-switched platform features a PICMG® 2.16-compatible midplane supporting a Redundant Host architecture for 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 ZT 5085e CompactPCI® platform supports five-nines (99.999%) availability with built-in redundancy for active system components including system master CPU boards, Ethernet switches, intelligent shelf managers (ISMs), power supplies and fan trays. Redundant ISMs enable customers to manage multiple Intelligent Platform Management Interface (IPMI)-based components in the platform and conduct comprehensive diagnostics remotely for enhanced system reliability. Ethernet signals are routed across the midplane without the use of cables, saving time in set-up, maintenance and repair and minimizing the thermal challenges of traditional cabling methods.

The ZT 5085e platform is part of our IPnexus™ family of embedded packet products and is also designed to interoperate with any third-party PICMG 2.16-compatible boards.

Midplane Configuration and Details

The ZT 5085e platform is flexible and can accommodate multiple configurations. It can be configured as two independent PCI bus segments, each with up to two dedicated system masters. Use of the ZT 5524e Single Board Computer with the ZT 4901e I/O Mezzanine Expansion Card option allows bridging from one PCI segment to the other.

The ZT 5085e also supports a Redundant Host architecture, providing fault tolerance at the system master level. Two system masters can control the 12 peripheral slots on PCI segments one and two in both active/active and active/standby modes. For this configuration, two pairs of ZT 5524e/ZT 4901e boards are required (the first mated pair fits in slots 9-10 and the second fits slots 11-12, see Figure 1).

ZT 5085e

12U Redundant Host PICMG® 2.16 Platform

Highlights

- >> Up to 1300W Total Power and Cooling (e.g. 50W per node slot and 70W per fabric slot)
 - Redundant hot-swappable fan trays
 - Redundant hot-swappable N+N power supply architecture
 - Isolated power inputs (no OR'ing diodes)
- >> Designed for NEBS Level 3 and ETSI Installations
- >> IPMI Star Topology for Increased Reliability and Security
- >> Five Nines Availability
- >> All Field-Replaceable Units (FRUs) Serviceable from the Front (Except RTMs)

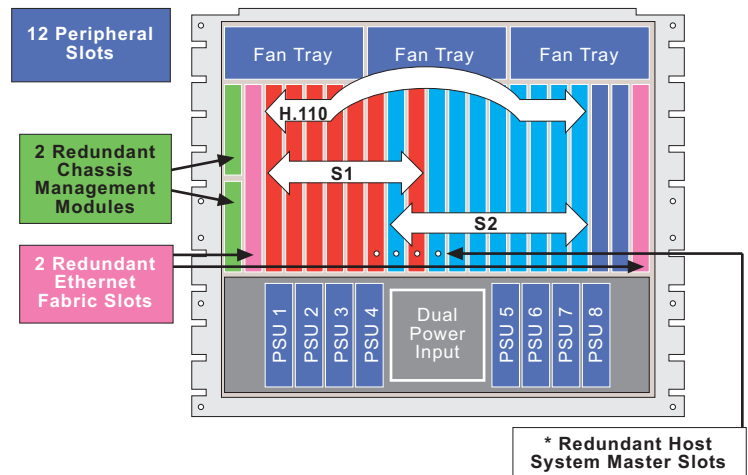
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Figure 1. Component layout for ZT 5085e platform



In both these configurations, the 12 peripheral slots support one single H.110 bus spanning slots three through eight and 13 through 18. All slots support IEEE 1101.11-style, 80mm-deep transition cards in the rear panel I/O section directly behind the midplane. Each node and fabric slot may be independently configured for 3.3V or 5V VI/O operation.

Intelligent Shelf Manager

The ZT 5085e 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 uses standards-based interfaces, allowing management of third-party IPMI-based products within an IPnexus platform. It communicates with components in the ZT 5085e via point-to-point IPMB busses in a unique star topology to achieve comprehensive, highly available management.

Redundant Power Subsystems

The ZT 5085e supports an N+N redundant, scalable power solution with up to eight standard 3U x 8HP power supplies. The power supplies are divided into two separate power subsystems, each housing four power supplies and receiving input power from redundant DC or AC inputs. This is critical in central office locations where two independent power feeds deliver redundant DC input into high availability systems. The two power subsystems maintain isolation of these inputs (no diode OR'ing) and provide protection so that failure of one power input will not affect the other.

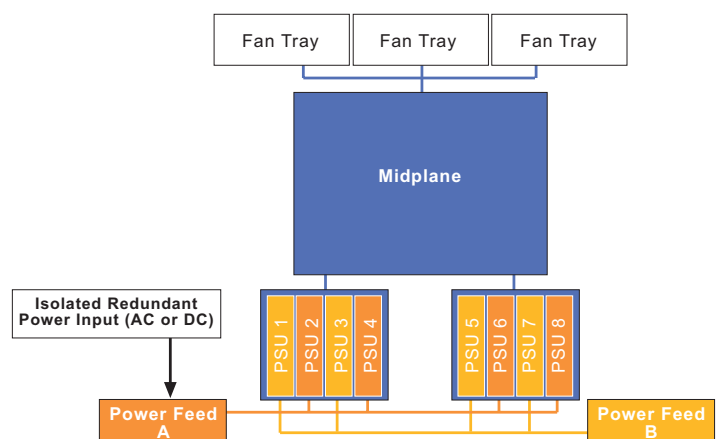


Figure 2. The ZT 5085e platform redundant power-input architecture

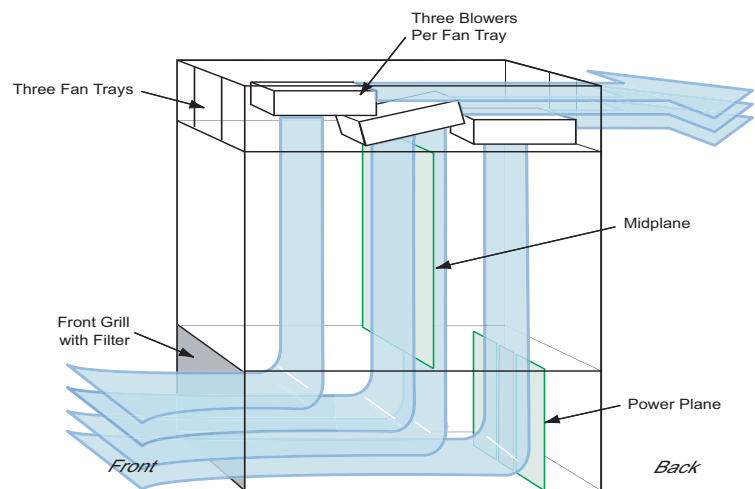
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12U Redundant Host PICMG® 2.16 Platform

Cooling Architecture

With 250W power supplies, the ZT 5085e platform supports more than 40W per slot or when scaled to 325W DC power supplies, powers and cools up to 50W per node slot and 80W per fabric slot. 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).

Figure 3. Cross section/side view of the ZT 5085e 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 5524e: Dual or Single 1GHz Intel® Pentium® III processor, up to 4GB PC 133 SDRAM ECC, HDD
- ZT 5504e: 1GHz Intel® Pentium® III processor - Low Power, up to 2GB SDRAM ECC, HDD, PMC, SVGA
- ZT 4901e: Mezzanine /bridge card for ZT 5524e, provides dual PMC sites and dual Fibre channel interfaces. Supports CompactPCI bridging and Redundant Host operation in a ZT 5085e chassis.
- ZT 4807e: Rear panel transition board
- RTM4808A: Rear panel transition board

Contact Information

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Ethernet Switches

- See the complete line of our IPnexus Ethernet switches.

Management

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

Power Supplies

- ZT 6303: 250W AC power supply
- ZT 6314A: 325W DC power supply

Fan Tray

- 20450: Fan tray with blowers



IPnexus™

ZT 5085e

12U Redundant Host PICMG® 2.16 Platform

Ordering Information

The ZT 5085e 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 ZT 5085e is compliant with the following specifications:

- CompactPCI® Core Spec, PICMG® 2.0, R2.1
- 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 ZT 5085e, 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") (PN 18299).
- To cover six rear panel slots, use a filler plate that is 6U x 24HP (PN 20434).
- To fill a front slot, use an air management blade that is 6U x 4HP (PN 20456).
- To fill a power supply bay, use an air management blade that is 3U X 8HP (PN 20455).

- To fill an SM slot, use a filler panel that is 3U X 4HP (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