

PAC-4010

Packetarium XLe Ultra High Performance Blade Server with 100G Switched Midplane



Features

- Highest CPU and I/O density platform in the Packetarium XL family
- Up to 12 CPU blades with single Intel® Xeon® Processor E5-2600 v3/v4
- Up to 2Tbps switching capacity with 100Gbps midplane connectivity per blade
- Flexible I/O configurations with up to 6 PHY Mezzanine Modules (PMMs) which can host 1x100GbE, 3x40GbE, 2x40GbE, or 8x10GbE ports each
- Broadcom FastPath v8.2 and Advantech Load Balancer (L2) supports
- Enhanced platform management features for increased RASUM
- Hot swappable and redundant AC/DC and DC/DC PSU options
- Front-to-rear push-pull cooling mode. Six rear pluggable, hot swappable fan modules with fan speed control
- Optional SATA storage devices on the CPU blade and on the system mount
- Optional LCD module support



Introduction

Advantech's Packetarium XLe series meets the higher levels of performance and throughput needed by next generation enterprise and telecom applications, offering new, cost-effective ways to scale-out compute density using Intel® Architecture processors distributed across high-speed switched backplanes.

The system is optimized for maximum CPU and network I/O density, enabling faster packet handling to meet the increased data throughput rates needed in enterprise networking and in telecom middle boxes. It is ideal for Network Intelligence deployments requiring accelerated packet processing performance on 10GbE, 40GbE and 100GbE ports in applications such as high-end network security, policy control and traffic analysis. The first model in the Packetarium XLe for Enterprise series, the PAC-4010 fits in just 4RU and reaches the performance levels typically only found in specialized ATCA or proprietary network processor-based solutions, but at a fraction of the cost.

The platform uses common IP and building blocks to bring greater cost efficiencies and economies of scale which can then be passed on to customers.

The PAC-4010, packs up to 840 Gbps of I/O, up to 2 Tbps of switching capacity and up to 12 Intel® Xeon® Processor E5-2600 v3/v4 CPUs in just 4RU. The integrated switch & system control module is based on the high capacity Broadcom StrataXGS® Trident II/II+ switch family managed by an Intel® Atom™ Processor C2000 and provides six hot swappable PHY mezzanine module (PMM) slots to accommodate a wide choice of 10 GbE, 40 GbE and 100 GbE ports with optional LAN bypass support.

Many different payloads can be integrated into Advantech Packetarium XLe systems and configured to address a broad range of industry applications. For more details on integrating a specific configuration please contact your local sales representative.

Specifications

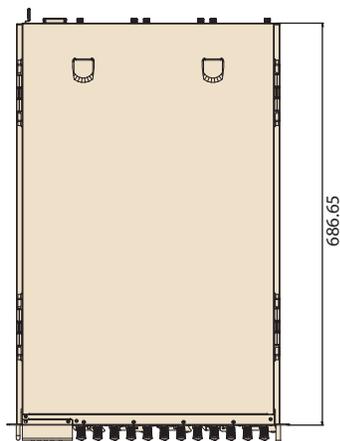
Processor System	CPU ^{NOTE1}	12 CPU blades, Single Intel® Xeon® Processor E5-2600 v3/v4 series on each CPU blade
	Switch	Up to 1.68 Tbps data plane switching capacity, Up to 320Gbps control plane switching capacity, Up to 100Gbps connectivity per blade
External I/O Modules & Interface	PMM Modules ^{NOTE1}	Flexible I/O with up to 6 PHY Mezzanine Modules (PMMs) which can host 1x100GbE, 3x40GbE, 2x40GbE, or 8x10GbE ports each Maximum 120Gbps traffic for each PHY Mezzanine Module (PMM)
	LAN	4x SFP+ for data plane, 4x SFP+ and 1x QSFP+ for control plane, 2x GbE for system management
	Serial Console USB	2x RS-232 (one with RJ45 port for switch LMP and the other with miniUSB port for ShMC) 2x USB 2.0 port connect to switch LMP
Storage	SATA	Up to 2x system storages (2.5" SSD or HDD) and 2x on-board m-SATA storages on the switch board Up to 2x m-SATA M.2 SSD on each CPU blade
Cooling	Technology	Six Rear pluggable, hot swappable fan modules with PICMG compliant fan speed control
Power	AC Input	Up to four redundant power supply units with separate AC inlets. AC 200-240V, 50-60Hz, with 2+2 and N+1 power redundancy options (max output 3600W) AC 100-127V, 50-60Hz, with N+1 power redundancy (max output 3000W)
	DC Input	Up to four redundant power supply units with separate DC inlets. DC -40V - -60V, 55A, with 2+2 and N+1 power redundancy options (max output 3600W)
	PSU cooling	Self cooled
	Output DC voltage	+12V
	Output Current rating	Maximum 148A@ +12V per PSU Maximum 2A@ +12VSB per PSU
	Power Consumption	3100W (with configuration: 12x CPU blades with 4x 2133MHz 16GB DDR4 memory and 2x M.2 SSD each blade, 6x single port 100GbE PMMs)

Specifications (Cont.)

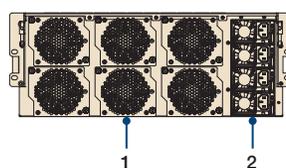
Shelf management	BMC	ARM 9 based controller (400MHz)	
	IPMI	IPMI 2.0 based on Advantech IPMI Core	
	Interfaces	RMCP, SSH, SNMP, CLI, and serial interfaces	
	Sensors	FRU presence, fan health, PSU health, temperatures, input voltages	
Accessibility	Front	CPU blades, PMMs, 2.5" SSDs or HDDs	
	Rear	Fan modules, AC or DC PSU's	
Physical Characteristics	Dimensions (H x W x D)	4U x 19" x 686 mm	
	Weight	63kg (system weight with full configuration (including 12x CPU blades and 6x PMMs))	
Environment	Temperature	Operating 0 ~ 40° C (32 ~ 104° F)	Non-operating - 40 ~ 70° C (-40 ~ 158° F)
	Humidity	50% @ 25°C to 95% @ 40°C (non condensing)	95% @ 60° C (non-condensing)
	Altitude	Up to 13000ft @ 45°C	
	Acoustic	61.3dB(A) (Idle mode)	
	PICMG	IPMI, HPM.1 firmware upgrade, HPM.2 extended message size	
Compliance	CB report (IEC60950-1), CE mark (EN60950-1), UL60950-1/CSAC22.2		
	Safety & EMC FCC47 CFR Part15, Class A, CE Mark (EN55022/EN55024), RCM Mark (AS/NZS CISPR 22), VCCI, KCC		

Dimensions

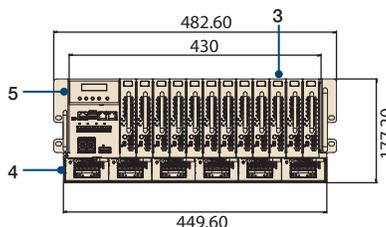
Top View



Rear View



Front View



1. Hot swappable FAN module
2. AC/DC or DC/DC PSU
3. CPU blade (MIC-8301)
4. PMM (PMM-4100)
5. LCM module

Ordering Information

Part Number	Description
PAC-4010-BTO	4U, 12x processor blade slots with 4x 1800W PSUs, 6x fan modules, optional processor blades and PMMs

Related Products

Model Series	Configuration
MIC-8301	Advantech Single socket CPU Blade with Intel® Xeon® Processor E5 series
PMM-2400	8 port 10GbE PHY Mezzanine Modules (PMM)
PMM-4100	Single port 100GbE PMM
PMM-3200	2 port 40GbE PMM
PMM-3201	3 port 40GbE PMM

Chassis FRU List

Model Series	Description
PAC-4010SC2-P1AE	4U, 12x processor blade slots with 4x 1800W AC PSUs, N+1 power redundancy, 6x fan modules, w/o processor blades and PMMs
PAC-4010SC2-P2AE	4U, 12x processor blade slots with 4x 1800W AC PSUs, 2+2 power redundancy, 6x fan modules, w/o processor blades and PMMs
PAC-4010SC2-P1DE	4U, 12x processor blade slots with 4x 1800W DC PSUs, N+1 power redundancy, 6x fan modules, w/o processor blades and PMMs
PAC-4010SC2-P2DE	4U, 12x processor blade slots with 4x 1800W DC PSUs, 2+2 power redundancy, 6x fan modules, w/o processor blades and PMMs
PAC-4010SF1-00E	PAC-4010 fan module
PAC-4010SP1-ACE	Power supply AC 1800W for PAC-4010
PAC-4010SP1-DCE	Power supply DC 1800W with 3m 6AWG DC power cable for PAC-4010
MIC-8301S-000E	Filler panel for PAC-4010 processor blade slot
PMM-0000-AD0000E	Filler panel for PAC-4010 PMM slot

NOTE 1: Please contact your local Advantech sales representative for more information of CPU blades and PMMs.