

ZX9210 ATCA Processor Blade

Intel® E5-2600 Series, 10Gigabit ATCA Compute Blade



Product Description

Virtualized environments have become a key requirement for next-generation applications, reducing system infrastructure costs and offering improved efficiency and scaling. The ZX9210 allows System Architects the highest performance Intel® Xeon® E5-2600 Series processors with the largest memory footprint available in an AdvancedTCA® (ATCA) compute blade to host up to 32 virtual machines (VMs) in a single compute blade, each with a dedicated hardware thread.

The ZX9210 is a dual socket compute blade that can be configured with a single E5-2620 (6C/12T) for entry-level cost-effective solutions up to dual E5-2648L or E5-2658 (8C/16T) processors for high-end configurations. The ZX9210 includes support for "Ivy Bridge" processors, which allow customers to leverage advances in Intel Architectures (IA) without the need to qualify a new compute blade.

With 16 DDR3 memory sockets, the ZX9210 provides the highest number of sockets on any ATCA blade. This allows for a maximum of 512GB of memory and serves as a cost-effective configuration for applications with lower memory requirements. The additional sockets can be used to optimize memory by utilizing lower-cost, low-density DIMMs.

The ZX9210 includes dual USB and DVI video on the front panel, as well as dual Gigabit Ethernet ports for direct connection to the processor and a single Gigabit Ethernet port for access to the base interface network. Two mSATA sites enable up to 512GB of high-speed local storage with additional storage capabilities via an RTM. Dual 10 Gigabit links are routed to an RTM for applications that require up to 20 Gb/s external connectivity. The ZX9210 supports the Oracle® RTM specification, ensuring compatibility with a wide-range of RTMs available from multiple vendors.

Designed to handle a large number of VMs, the ZX9210 includes several hardware-based virtualization technologies to improve VM performance, including:

- Intel Data Direct I/O – provides direct access to processor cache. This improves the LLC hit rate, relieves congestion on the memory subsystem which frees up bandwidth and provides additional power savings
- SR-IOV – Shares a single I/O resource between multiple virtual machines.
- Flexible Port Partitioning - Efficiently divides physical Ethernet ports into multiple virtual devices, providing QoS

Features

High Performance Intel® Xeon® Processors

- Single and Dual Intel® Xeon® E5 2600 Series 6-Core and 8-Core processors provide the highest compute performance in an ATCA form factor
- Up to 16 cores / 32 threads per board
- Dual QPI Interconnects between processors for low latency and 16GT/s bandwidth to memory and PCIe busses
- 20MB L3 Cache per processor
- Compatible with upcoming "Ivy Bridge" series processors
- 1.8GHz Low Power or 2.1GHz Max Performance

Virtualization

- Includes OpenArchitect® 4 Linux Distribution with KVM for virtualization
- "Sandy Bridge" VT technology includes VT-x and VT-d for VM hardware acceleration
- 10G Ethernet interfaces support SR-IOV, Packet Filtering, Packet Switching, and Packet Shaping
- VMDq improves throughput and overall system performance
- Intel® Data Direct I/O provides direct access to processor cache without going through system memory

Memory

- Features 16 DDR3 memory sockets, the maximum amount of memory available on any ATCA blade
- Supports up to 512GB of memory, ideal for applications with multiple virtualized environments or a large database
- High-speed 1600 MHz memory bus
- Advanced RAS-support, including channel mirroring and rank-level sparing

Storage and I/O

- Dual mSATA SSD sites on mainboard enable RTM-less operation with up to 512GB of local storage
- Compatible with the Oracle RTM specification with multiple vendors offering I/O and storage boards
- Dual 10 Gigabit Ethernet to RTM
- Redundant 1 Gigabit Ethernet Links to Base Interface
- Redundant 10 Gigabit Ethernet Links to Fabric Interface

OpenArchitect®4

Bundled at no additional fee, OpenArchitect4® (OA4) is a finely tuned Linux distribution based on Ubuntu® server and KVM (kernel-based virtual machine). OA4 provides customers a fully supported, pre-integrated and tested distribution that has been fine-tuned for hosting large numbers of VMs. In conjunction with ZNYX switching products, the ZX9210 provides industry-leading performance in packet vectoring to VMs. Driver level tuning with the latest Intel technology achieves a new benchmark in packet distribution to VMs.

Critical to telco deployments and demanded by mil/aero device manufacturers, OA4 provides up to five years of stability by limiting code base changes to only security patches. With finite changes affecting the software, the need to re-qualify a release is avoided, thus saving time and money.

Ordering Information

Part Number	Type	Description
ZX9210-1E52620-Q1	Compute Blade	Single "Sandy Bridge" E52620 6 Core / 2 GHz / 95W Processor
ZX9210-1E52658-Q1		Single "Sandy Bridge" E52658 8 Core / 2.1 GHz / 95W Processor
ZX9210-1E52648L-Q1		Single "Sandy Bridge" E52648L 8 Core / 1.8 GHz / 70W Processor
ZX9210-2E52620-Q1		Dual "Sandy Bridge" E52620 6 Core / 2GHz / 95W Processor
ZX9210-2E52658-Q1		Dual "Sandy Bridge" E52658 8 Core / 2.1GHz / 95W Processor
ZX9210-2E52648L-Q1		Dual "Sandy Bridge" E52648L 8 Core / 1.8GHz / 70W Processor
211-0168-001	Memory	4GB / 1600 MHz / ECC / DDR3 DIMM
211-0172-001		8GB / 1600 MHz / ECC / DDR3 DIMM
211-0173-001		16GB / 1600 MHz / ECC / DDR3 DIMM
211-0174-001		32GB / 1600 MHz / ECC / DDR3 DIMM
ZX9000U-0040M03	SSD Storage	40GB / mSATA / SSD / MLC
ZX9000U-0080M03		80GB / mSATA / SSD / MLC
ZX9000U-0256M03		256GB / mSATA / SSD / MLC
ZX9000R-415	RTM	2x 1TB SAS Disks / Video / 1GB RJ-45 / 2x USB / Console / LAN

About ZNYX

[ZNYX](#) is an innovator of solution enabling platforms for the mid-size market. For more than 20 years, ZNYX has been the foremost source for Ethernet adaptors, switches, blades, and fully integrated AdvancedTCA® platforms that deliver superior value. Currently installed ZNYX technologies support more than 110 million users every day. Equipment manufacturers, application providers and systems integrators rely on ZNYX to create solutions that are optimized for performance, time-to-market, reliability, and cost-of-ownership. ZNYX is a general member of the Intel® Intelligent Alliance, a community of communications and embedded developers and solution providers.

Specifications Subject to Change

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