

ATCA-7370 10G ATCA Server Blade

Data Sheet

An ideal solution for communications equipment requiring powerful server class processing performance, flexible mass storage and network options

- Two 8-core Intel® Xeon® processors, E5-2648L, 1.8 GHz
- Up to 128GB main memory
- Redundant PICMG® 3.1, Option 9, Option 1 ATCA fabric interface
- Powerful hardware off-loading functions for en/decryption, compression, based on two Intel® Communications Chipset 8920 (optional)
- Multiple 1 and 10Gbps network and storage I/O connectivity options
- Hot-swappable hard disk with flexible choice of storage options
- RAID 0/1 support
- Multiple software packages including operating systems
- Designed for NEBS and ETSI compliance



Advanced TCA®

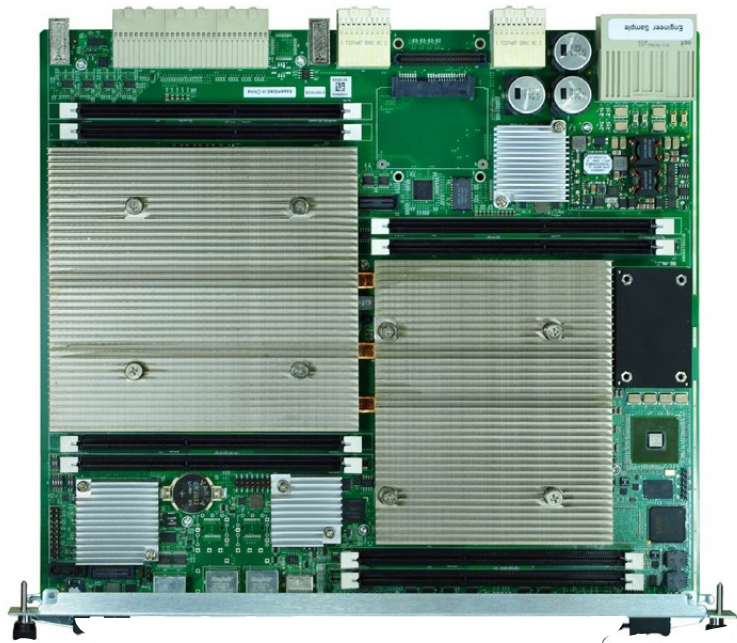
The Artesyn Embedded Technologies ATCA-7370 combines two 8-core Intel® Xeon® processors E5-2600 family and optional hardware offloading functions with up to 128GB main memory for a combination of performance and flexibility in a 10G ATCA blade.

Multiple available rear transition modules provide a flexible combination of storage and I/O, which simplifies the integration of Artesyn's ATCA-7370 into different 1G and 10G network infrastructures such as telecommunication central offices and network data centers.

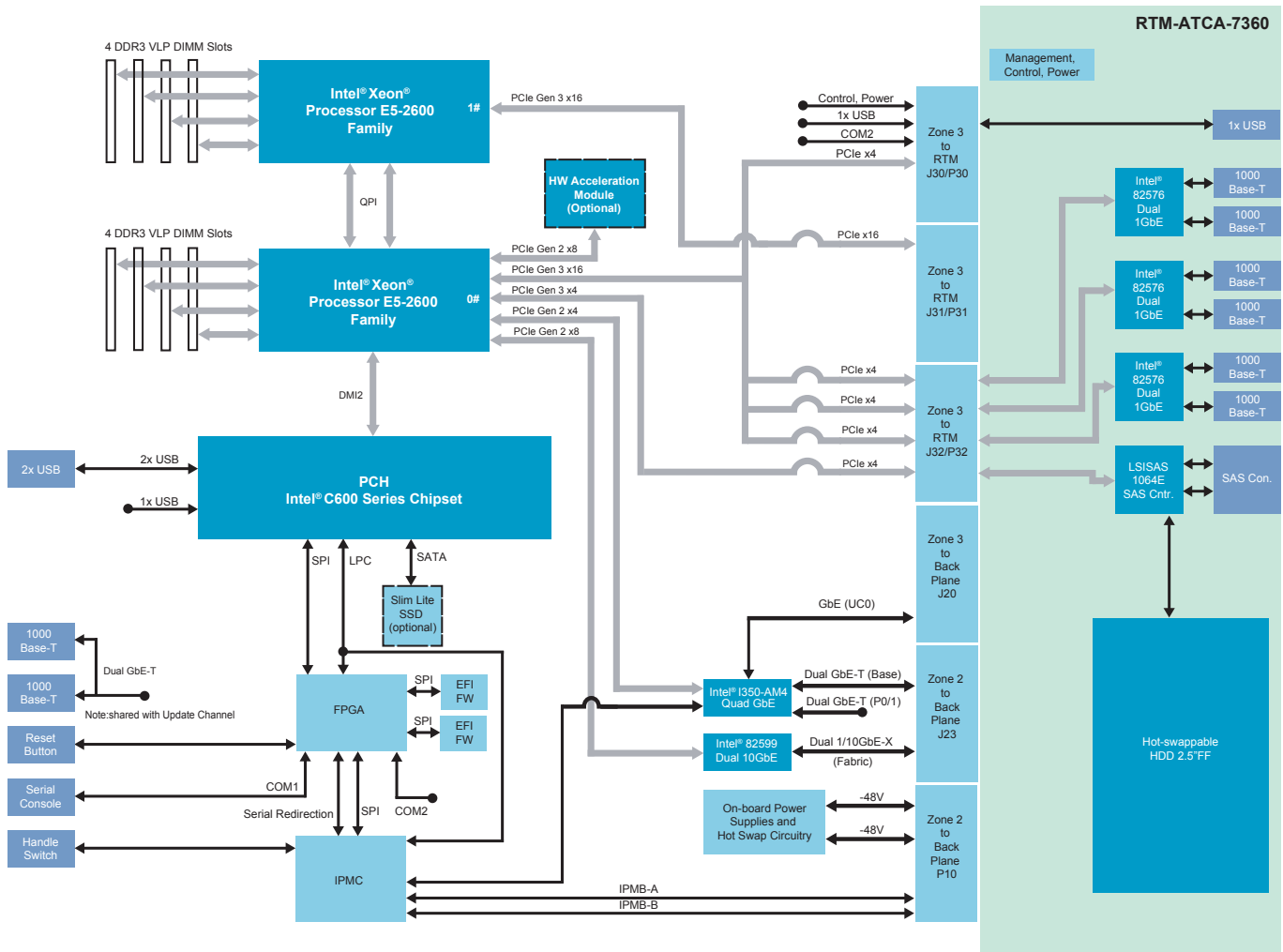
The ATCA-7370 is designed for Red Hat Enterprise Linux 6.5 and certified with VMware ESXi 5.1 providing developers a smooth integration experience.

Main memory configuration and mass storage options can be flexibly configured providing a perfect fit to the applications needs. Hardware RAID 0 and 1 is supported for locally and externally connected disk drives.

The blade is optimized to work with Artesyn's range of application-ready Centellis® AdvancedTCA systems, which cover 2-slot, 6-slot and 14-slot variants that are designed to meet the needs of both telecom central office and network data center environments.



ATCA-7370 Block Diagram



Standard Networking Support

The ATCA-7370 processor blade provides PICMG 3.0 base interface connectivity in a dual star configuration using standard Gigabit Ethernet (GbE) technology. The PICMG 3.1 fabric interface features both dual 10Gbps (Option 9) and dual 1Gbps (Option 1) Ethernet capability. External network connectivity includes dual 10/100/1000Base-T Ethernet via RJ-45 connector on the blade faceplate (Note 1). Several rear transition module (RTM) configurations support up to six additional 10/100/1000Base-T connections or up to six 10Gb Ethernet SFP+ interfaces.

Processor Complex

Both Intel Xeon processors (E5-2600 family) are connected together via two QPI interconnects to share memory and I/O resources connected to either CPU at very high bandwidth. The processors can access the entire I/O subsystem via the on-chip PCI Express (PCIe) interfaces. The I/O subsystem consists of:

- Intel i350 quad Gigabit Ethernet controller
- Intel 82599 dual 10 Gigabit Ethernet controller
- Intel C600 Series Chipset (Local SSD, USB)
- Intel 82576 dual Gigabit Ethernet controller (on optional RTM)
- Intel 82599 dual 10Gbit Ethernet controller (on optional RTM)
- LSI Logic LSISAS1064E SAS controller (on optional RTM)

Note 1: One network port shared between front panel connector and Update Channel.

Software Support

The ATCA-7370 blade can be configured with a variety of software offerings, from firmware-only to fully integrated and verified software operating environments.

FIRMWARE

Firmware-only blade-level support is offered for customers taking on the integration and verification responsibilities. It provides all the boot and IPMC firmware required for an ATCA blade. The BIOS firmware includes support for:

- Unified Extensible Firmware Interface (UEFI)
- Power management support, ACPI 3.0b
- Multiple boot options including:
 - Local and external hard disks
 - On-board solid state disk
 - External USB boot media
 - PXE boot via ATCA base interface
- RAID 0/1 support via LSI SAS BIOS extension
- Serial redirection of the BIOS console
- Serial over LAN of the BIOS console via ATCA base interface
- BIOS upgrade via local host

INTELLIGENT PLATFORM MANAGEMENT CONTROL

The IPMC provides interfaces for hardware platform management that allow monitoring status, event logging, and recovery control of the blade. Features include:

- Compliance with PICMG 3.0 and IPMI 2.0
- Rollback capability if IPMC image upgrade failed
- Firmware (BIOS, IPMC, FPGA) upgradable from IPMI interfaces (LAN, KCS, IPMB), PICMG HPM.1 support or via Basic Blade Services (BBS) firmware upgrade utility
- Serial redirection, Serial over LAN

SUPPORTED OPERATING SYSTEMS

The ATCA-7370 is designed to operate with

- Designed for Red Hat RHEL 6
- Wind River Linux 4.3

The ATCA-7370 is designed to load operating systems offered by 3rd party including Red Hat Enterprise Linux and Wind River Linux. The ATCA-7370 can be configured with optional Wind River Linux 4.3 including Basic Blade Services. This distribution comes with all Linux Support Packages (LSPs) to support Artesyn ATCA blades as well as user applications. Basic Blade Services (BBS) software is provided to enable a set of ATCA hardware and software components into a fully integrated and verified telecom platform. Basic Blade Services include:

- Hardware Platform Management including local IPMC, LED, E-Keying and blade extraction software
- Supervision of optical modules
- Firmware upgrade utility
- Local management access (CLI)

RELEVANT STANDARDS

- Linux Foundation
- Service Availability Forum™ (SA Forum)
 - Hardware Platform Interface (HPI) – HPI-B.02

Rear Transition Modules

The ATCA-7370 is fully back ward compliant with the rear transition modules (RTMs) introduced with the successful ATCA-736x family (Note 1). The main I/O interconnect from the processor complex to the ATCA Zone 3 is based on PCIe supporting multiple interconnect capabilities to meet bandwidth requirements of future RTM designs. Several RTM variants are available to support different I/O configurations at the RTM faceplate.

RTM-ATCA-7360 includes:

- One (1) USB 2.0 interface
- Six (6) Gigabit Ethernet interfaces, 10/100/1000Base-T, RJ-45 connector
- Two (2) SAS interfaces, SFF-8470 connector
- Disk bay for one (1) hot-swappable hard disk, 2.5"

RTM-ATCA-7360-L includes:

- One (1) USB 2.0 interface
- Two (2) Gigabit Ethernet interfaces, 10/100/1000Base-T, RJ-45 connector
- Two (2) SAS interfaces, SFF-8470 connector
- Disk bay for one (1) hot-swappable hard disk, 2.5"

Note 1: Storage cross connect between two RTM unsupported

RTM-ATCA-736X-DD supports:

- Two (2) Gigabit Ethernet interfaces, 10/100/1000Base-T, RJ-45 connectors
- Two (2) disk bays for hot-swappable hard disks, 2.5" with RAID 0/1 support

RTM-ATCA-736X-10G supports:

- Four (4) 10 Gigabit Ethernet interfaces, SFP+/SFP
- Four (4) Gigabit Ethernet interfaces, 10/100/1000Base-T, RJ-45 connectors
- Two (2) SAS interfaces, SFF-8470 connector
- Disk bay for one (1) optional hot-swappable hard disk, 2.5"

RTM-ATCA-736X-10G-SP supports:

- Six (6) 10 Gigabit Ethernet interfaces, SFP+/SFP
- Four (4) Gigabit Ethernet interfaces,
- 10/100/1000Base-T, RJ-45 connectors

Hardware

PROCESSOR

- One or two 8-core Intel® Xeon® processors E5-2648L (1.8 GHz)
- Dual QuickPath Interface (QPI) – 8.0 GT/s
- 20MB L3 cache (per processor)
- Enhanced features (Intel AES-NI, AVX/SSE, VT, HT, 64 bit, power management)
- SMP support

MEMORY

- DDR3 1600 memory controllers integrated into processors
- Total of four independent memory channels per CPU socket
- From 32 to 128GB memory configurations supported
- Support for memory integrity (ECC)

MASS STORAGE

- On-board solid state disk (JEDEC MO-297-A) at SATA, up to 256GB (optional)
- Hot-swappable hard disks on RTM
- Hard disk drive options including Enterprise class disks (various capacity options)

BASE AND FABRIC INTERFACES

- Dual star configuration
- PICMG 3.0 base interface compliant, Gigabit Ethernet (1.0Gbps)
- PICMG 3.1 fabric interface compliant
 - PICMG 3.1, Option 1 – Single, redundant Gigabit Ethernet pair (1.0Gbps)
 - PICMG 3.1, Option 9 – Single, redundant 10 Gigabit Ethernet pair (10Gbps)

HARDWARE OFF LOADING

- Hardware off-load engine on optional mezzanine module

COUNTERS /TIMERS

- Real-time clock
- Programmable watchdog timer

EXTERNAL INTERFACES

- Front panel
 - 10/100/1000Base-T Ethernet (2), RJ-45, Note 2
 - Serial console (1), RJ-45
 - USB 2.0 (2)
- Rear transition module
 - USB 2.0 (1)
 - Gigabit Ethernet interfaces (2, 4 or 6), optional, RJ-45
 - 10 Gigabit Ethernet interfaces (2 or 6), optional, SFP+
 - SAS interfaces (2), SFF-8470

POWER REQUIREMENTS

- Dual-redundant -48 / -60 VDC (TNV-2) rail
- Input range: -39 to -72 VDC

THERMAL CHARACTERISTICS

- Operating range: -5 °C to 55 °C
- Airflow requirements according to CP-TA B.4

RELEVANT BLADE SIZE

- 8U form factor, 280 mm x 322.5 mm, single slot

RELEVANT STANDARDS

- PICMG 3.0 (form factor, IPMI, base interface, hot swap, RTM)
- PICMG 3.1, Option 1, 9

Note 2: One network port shared between front panel connector and Update Channel

Ordering Information	
Part Number	Description
ATCA-7370-0GB	ATCA processor blade with dual 8-core Intel® Xeon® processors E5-2648L (1.8 GHz), 8x DIMM sockets, 0GB, 10G support. <i>See Note 1</i>
ATCA-7370-0GB-S	ATCA processor blade with single 8-core Intel® Xeon® processor E5-2648L (1.8 GHz), 4x DIMM sockets, 0GB, 10G support. <i>See Note 1</i>
ATCA-7370-ACCEL-MOD	Hardware acceleration module, with Intel® Communications Chipset 8920, for the ATCA-7370 blade (optional)
ATCA-7370-32GB	ATCA processor blade with dual 8-core Intel® Xeon® processors E5-2648L (1.8 GHz), 8x 4GB DDR3-1600, 10G support
ATCA-7370-64GB	ATCA processor blade with dual 8-core Intel® Xeon® processors E5-2648L (1.8 GHz), 8x 8GB DDR3-1600, 10G support
ATCA-7XMEM-1600-4G	4GB DDR3-1600 VLP memory module for ATCA-737X and ATCA-747X product series
ATCA-7XMEM-1600-8G	8GB DDR3-1600 VLP memory module for ATCA-737X and ATCA-747X product series
ATCA-7XMEM-1600-16G	16GB DDR3-1600 VLP memory module for ATCA-737X and ATCA-747X product series
RTM-ATCA-7360	RTM for the ATCA-736X, ATCA-737X and ATCA-747X product series, 6x GbE, 2x SAS, 1x slot for optional HDD
RTM-ATCA-7360-L	RTM for the ATCA-736X, ATCA-737X and ATCA-747X product series, 2x GbE, 2x SAS, 1x slot for optional HDD
ATCA7360-HDD2-SAS	300GB SAS HDD kit for the RTM-ATCA-7360 and RTM-ATCA-7360-L
ATCA7360-HDD4-SAS	600GB SAS HDD kit for the RTM-ATCA-7360 and RTM-ATCA-7360-L
ATCA7360-HDD5-SAS	900GB SAS HDD kit for the RTM-ATCA-7360 and RTM-ATCA-7360-L
RTM-ATCA-7360-HDDKIT	Carrier and mounting kit for HDD or SSD devices used with RTM-ATCA-7360 or RTM-ATCA-7360-L (no disk included)
RTM-ATCA-736X-DD	RTM for the ATCA-736X, ATCA-737X and ATCA-747X product series, 2x GbE, 2x slot for optional HDD
RTM-ATCA-736X-DD-600	RTM for the ATCA-736X, ATCA-737X and ATCA-747X product series, 2x GbE, 2x 300GB SAS HDD included
RTM-ATCA-736X-DD-1K2	RTM for the ATCA-736X, ATCA-737X and ATCA-747X product series, 2x GbE, 2x 600GB SAS HDD included
RTM-ATCA-736X-10G	RTM for the ATCA-7365, ATCA-737X and ATCA-747X product series, 4x 10GbE (SFP+), 4x GbE, 1x slot for optional HDD. <i>See Note 3</i>
ATCA736X-HDD1-SAS	300GB SAS HDD for RTM-ATCA-736X-10G, RTM-ATCA-747X-10G-D
ATCA736X-HDD2-SAS	600GB SAS HDD for RTM-ATCA-736X-10G, RTM-ATCA-747X-10G-D
ATCA736X-SSD1-SATA	480GB SATA SSD kit for RTM-ATCA-736X-10G, RTM-ATCA-747X-10G-D
RTM-ATCA-736X-10G-SP	RTM for the ATCA-7365, ATCA-737X and ATCA-747X product series, 6x 10GbE (SFP+), 4x GbE. <i>See Note 3</i>
ATCA-7XMMOD-SATA3	128GB Slim SATA (MO-297) MLC Module for ATCA-737X and ATCA-747X product series
ATCA-7XMMOD-SATA4	256GB Slim SATA (MO-297) MLC Module for ATCA-737X and ATCA-747X product series
RJ45-DSUB-ATCA	RJ-45 DSUB cable for the ATCA-7140, 7X50, 736X, 737X, 747X blades
SA-BBS-WR43-7370	DVD - BBS SW and WR Linux 4.3 for ATCA-737X. <i>See Note 2</i>

Note 1: No memory installed

Note 2: License for a single blade

Note 3: SFP/SFP+ modules not included

Regulatory Compliance	
Item	Description
Designed to comply with NEBS, Level 3	Telcordia GR-63-CORE, NEBS Physical Protection
	Telcordia GR-1089-CORE, Electromagnetic Compatibility and Electrical Safety – Generic Criteria for Network Telecommunications Equipment. Equipment Type 2
Designed to comply with ETSI	ETSI Storage, EN 300 019-1-1, Class 1.2 equipment, Not Temperature Controlled Storage Locations
	ETSI Transportation, EN 300 019-1-2, Class 2.3 equipment, Public Transportation
	ETSI Operation, EN 300 019-1-3, Class 3.1(E) equipment, Temperature Controlled Locations
	ETSI EN 300 132-2 Environmental Engineering (EE); Power supply interface at the input to telecommunications equipment; Part 2: Operated by direct current (dc)
	ETSI ETS 300 753, Equipment Engineering (EE); Acoustic noise emitted by telecommunications equipment
CE Conformity	Directive 2004/108/EC, Directive 2006/95/EC
EMC	EN 55022 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement
	EN 55024 Information technology equipment - Immunity characteristics - Limits and methods of measurement
	ETSI EN 300 386 Electromagnetic compatibility and Radio spectrum Matters (ERM); telecommunication network equipment; ElectroMagnetic Compatibility (EMC) requirements, Telecommunication equipment room (attended)
	CFR 47 FCC Part 15 Subpart B, Class A (US); FCC Part 15 - Radio Frequency Devices; Subpart B: Unintentional Radiators
	AS/NZS CISPR 22 (Australia/New Zealand), Limits and Methods of Measurement of Radio Disturbance Characteristics of Information Technology Equipment
	VCCI Class A (Japan), Voluntary Control Council for Interference by Information Technology Equipment
	CISPR 22 Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement
	CISPR 24 Information technology equipment – Immunity characteristics – Limits and methods of measurement
Safety	Certified to UL/CSA 60950-1, EN 60950-1 and IEC 60950-1 CB Scheme
	Safety of information technology equipment, including electrical business equipment
RoHS/WEEE compliance	DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)
Interoperability	Designed to operate within a CP-TA B.4 system environment at full performance

SOLUTION SERVICES

Artesyn Embedded Technologies provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include global 24x7 technical support. Renewal services enable product longevity and technology refresh.

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