

CG2300



COMPACT 2U, 20-INCH DEEP CARRIER GRADE RACKMOUNT SERVER

- ▶ Dual Intel® Xeon® 16-Core Processor E5-2600 V3 Family
- ▶ High memory, flexible I/O and storage options
- ▶ Dual redundant AC or DC power options

CG2300 PRODUCT OVERVIEW

BENEFITS OF DUAL 16-CORE INTEL XEON

With a long and proven history dedicated to designing 'long-life' carrier grade communication servers, Kontron introduces the CG2300, designed to meet NEBS-3 certification.

Featuring a 'dual-socket' approach with the Intel Xeon 16-core E5-2600 v3 Processors Family, this Kontron server combines high memory, flexible I/O and storage options, and dual redundant AC or DC power options into a compact 2U, 20-inch deep form factor.

The Intel® Xeon® processor E5-2600 v3 product family is designed to meet the modern and future needs of compute, storage, and networking, and features accelerated performance with Intel® Advanced Vector Extensions 2 (Intel® AVX2) across a broad set of data center workloads, built-in intelligent power management capabilities that improve energy efficiency and frequency optimization, and advanced measurement and telemetry features that maximize operational efficiency through virtualization and data center orchestration.

The 22nm Intel Xeon Processor E5 v3 family introduces a multitude of enhancements intended to significantly improve processor performance over previous generations, plus lower latency and intelligently save power.

The Intel Xeon Processor E5-2600 v3 family features exemplary performance and a maximized feature set, ideal for telecom and network equipment manufacturers (TEMs/NEPs) planning to go to market with high-bandwidth infrastructure used in carrier cloud computing and 4G LTE EPC networks.

The Kontron CG2300 benefits from the following Intel advancements:

- ▶ Massive I/O bandwidth increase: total of 40 lanes / CPU;
- ▶ Faster memory bandwidth: each processor has 8 channels running up to 2133MHz, a 20% increase over previous Intel Xeon Processor E5-2600 v2;
- ▶ More cores, similar power budget: supports for up to 16 cores (32 threads) with the same power budget that allowed only up to 10 cores previously; dual-socket supplies 32 cores (64 threads)

▶ FEATURES AND BENEFITS

DUAL SOCKET SUPPORT FOR INTEL® XEON® PROCESSOR E5-2600 V3 FAMILY	22nm process technology for 32cores/64 threads available per system, enable significant performance improvement for multi-threaded applications. 64 PCIe Gen 3 lanes.
THREE-TO-FIVE YEAR LIFECYCLE SUPPORT	Reduced customer risk with fewer platform transitions and greater lifecycle stability.
SHALLOW 20-INCH DEPTH	Increases installation and service flexibility. Meets typical depth needed for most central office installations.
850W AC OR DC HOT-SWAP, REDUNDANT POWER SUPPLIES WITH PMBUS SUPPORT	Flexibility of either AC or DC power installation. Power supply unit is 80 Plus Platinum compliant and supports PMBus power management.
TELCO ALARM MANAGEMENT	Telco alarm LEDs on front panel. Relay connector on rear panel supports central office alarm systems.
HOT-SWAP, REDUNDANT FANS	Greater uptime and improved serviceability.
DUAL REAR-PANEL GBE NIC (CU) PORTS	Two on-board NIC ports are standard.
SIXTEEN RDIMM/UDIMM MEMORY SLOTS (DDR4-1333/1600/1866/2133 MT/S)	Supports four channel per processor and two slots per channel. Integrated memory controller in CPU enables higher performance at lower power.
DRIVE TRAYS FOR UP TO SIX HOT-SWAP 2.5-INCH SAS HARD DISK DRIVES	Choice of SAS drives. Improved serviceability with hot-swap drives. Large number of drives enables a variety of RAID options. Improved drive reliability due to proprietary rotational vibration suppression technology. SATA Solid State Drives are supported.
SOFTWARE RAID 0/1/10	Data storage virtualization that combines the disk drive components into a logical unit for data redundancy
REMOTE MANAGEMENT	Lights-out management via a dedicated management NIC. This allows secure remote access and control from the network.
CUSTOMIZABLE FRONT BEZEL	Adaptable to customer needs and environment.

▶ OPTIONAL FEATURES AND BENEFITS

SOFTWARE RAID 5	Raid 5 available through an activation key.
INTEGRATED HARDWARE RAID WITH FLASH BACKUP AND SUPERCAP TECHNOLOGY	Supports RAID levels 0/1/5/6/10/50/60 providing greater protection, reliability, and performance.
ADVANCED REMOTE MANAGEMENT	Activation key for advanced management features including remote KVM and media redirection.
FLASH MEMORY SUPPORT	Choice of multiple flash memory options are available: Internal bootable eUSB flash device; Internal M.2 flash drive; Two (2) front accessible SD flash media devices; SATA solid state drives
UP TO SEVEN PCI SLOTS FOR FLEXIBILITY AND ADDITIONAL I/O	Faster performance with PCI-E Gen3/Gen 2. Three low-profile PCI-E slots (one internal without rear I/O accessibility); Choice of risers to support either: (1) Four PCI-E x8slots; (2) Two PCI-E x16 slots; (3) Two PCI-E x8 or one PCI-E x16

► TECHNICAL SPECIFICATIONS

PROCESSOR	Dual 16-Core Intel® Xeon® Processor E5-2600 v3 Family
CHIPSET	Intel® C610 Chipset
CONNECTIONS	
PCI ADAPTER SLOT SUPPORT	Three low-profile slots including one without rear I/O accessibility. The following riser card options are supported: Right side: one slot x16 PCI-E riser; two slots x8 PCI-E riser; and Left side: one slot x16 PCI-E riser; or two slots x8 PCI-E riser
SERIAL PORTS	RJ-45 serial connector in front
VIDEO PORTS	One DB-15 video connector (rear)
USB 3.0 PORTS	Two rear
USB 2.0 PORTS	Three (3): one front, two rear
MANAGEMENT PORTS	One RJ-45 connector to support Intel® Remote Management NIC
STORAGE	
TYPE	Up to six 2.5-inch hot-swap SAS hard drive
REDUNDANCY	Software RAID 0, 1 and 10 (+ 5, 50 with upgrade key) and optional Hardware RAID 0, 1, 10, 5, 50, 6 and 60
INTERNAL	Optional eUSB and/or M.2
EXTERNAL	Carrier with six HDD tray
SD FLASH STORAGE	Two (2) front accessible Secure Data flash media devices are supported
MEMORY	
TYPE	DDR4 technology at 1333/1600/1866/2133 MT/s
DIMM SLOTS	Sixteen (16) RDIMM or LRDIMM slots
CAPACITY	2048GB (non-mirrored mode with 128GB DIMMs)
PHYSICAL	
HEIGHT WIDTH DEPTH	3.45 inches (87.6 mm) x 17.14 inches (435.3 mm) x 20 inches (508 mm)
ENVIRONMENTAL	
TEMPERATURE, OPERATING	-5°C to 55°C (41° F to 131° F)
TEMPERATURE, NON-OPERATING	-40°C to 70°C (-40° F to 158° F)
HUMIDITY	95%, non-condensing at temperatures of 23° C (73° F) to 40° C (104° F) Designed to meet or exceed Telcordia GR-63 and ETSI EN 300 019 humidity requirements for operating, transport and storage environments.
ALTITUDE	0 to 1,800 m (0 to 5,905 ft) @ 40° C; 0 to 3,200 m (0 to 13,123 ft) @ 30° C
SHOCK AND VIBRATION	Meets or exceeds Telcordia GR-63 and ETSI EN 300 019 requirements for operating transport and storage environments.
ELECTROSTATIC DISCHARGE (ESD)	Meets or exceeds NEBS and CE mark requirements for ESD immunity Tested ESD levels up to 15kV air discharge and 8kV contact discharge
ACOUSTIC	Meets or exceeds GR-63 and ETSI EN 300 753 requirements.
ROHS	CE mark to RoHS Directive 2011/65/EC
SAFETY COMPLIANCE	
USA/CANADA	cULus mark to UL 60950-1, 2nd Edition with Am.1 and Am.2/CSA 22.2 No. 60950-1 2nd Edition with Am.1 and Am.2
EUROPE	CE mark to Low Voltage Directive, 2006/95/EC, EN 60950-1, 2nd Edition with Am. 1 and Am.2;
INTERNATIONAL	CB Certificate and Report to IEC60950-1, 2nd Edition with Am. 1 and Am.2 and all international deviations
ELECTROMAGNETIC COMPATIBILITY	
CANADA	IC ICES-003 Class A
EUROPE	CE mark to EMC Directive, 2004/108/EC; EN55022, Class A, Radiated & Conducted Emissions; EN55024 Immunity Characteristics for ITE; EN61000-3-2 Harmonic Currents; EN61000-3-3 Voltage Flicker
INTERNATIONAL	CISPR 22, Class A, CISPR 24 Immunity
USA	FCC 47 CFR Parts 15, Class A

LEADING PERFORMANCE AND ENERGY EFFICIENCY IN A RUGGED, CARRIER-GRADE DESIGN

The CG2300 Carrier Grade Server combines performance, ruggedness and reliability. Moreover the platform is designed to meet NEBS-3 and ETSI standards. This high-performing, rugged server is an excellent choice for the demanding environment and limited space of the Telco central office, as well as for network data centers.

It enables OEMs and TEMs to create specialized, value-added solutions for a variety of telecom applications including unified messaging, SoIP, call control, streaming media and signaling gateways, and operational system support. In addition, the CG2300 is ideal for other types of rugged applications, such as in the Military and Medical segments, where meeting tough environmental requirements is critical.

The CG2300 has been designed to withstand extreme heat, humidity, altitude and zone 4 earthquake shock and multiple other extreme environmental conditions to compliance with NEBS-3/ETSI requirements. Also important for the rigid requirements of the telecom central office, the server includes advanced server management and telco alarm management features that provide visual, audible (optional) and SNMP event indications of faults.

MAINTAINING HIGH PERFORMANCE AND RELIABILITY: INNOVATIVE VIBRATION SUPPRESSION TECHNOLOGY

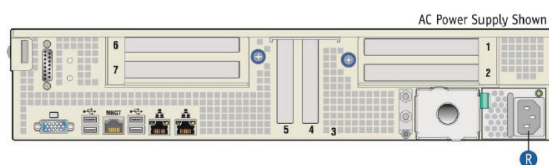
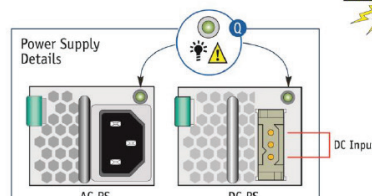
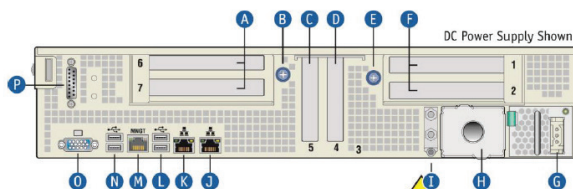
Kontron has integrated innovative vibration suppression technologies into its communication rack mount servers which benefit customers by allowing denser systems to operate at higher temperatures, thus, enabling the customer to deploy their solutions in environments not previously possible. In addition, they benefit from being able to use a greater variety of hard disk types and sizes instead of being limited to a few "extra rugged" devices.

The proprietary vibration suppression technologies in Kontron's communication rack mount servers are designed to significantly reduce the amount of vibration by isolating both vibration-generating devices and vibration-sensitive devices.

The company's 1U and 2U Carrier Grade and IP Network servers utilize a unique vibration-absorbing material allowing its designers to isolate both the fans and hard drives from direct contact with the system's metal infrastructure so they literally "float" inside the chassis. This approach requires that the initial system design includes vibration suppression as a key requirement.

► CG2300 - REAR OVERVIEW

- ▶ A - Right 1 2-slot FL/FH PCI assembly (slots 6 and 7)
- ▶ B- Thumb screw to secure right PCI assembly (A)
- ▶ C - LP PCI adapter (slot 5)
- ▶ D- LP PCI adapter (slot 4)
- ▶ E- Thumb screw to secure left PCI assembly (F)
- ▶ F- Left 2-slot FL/FH PCI assembly (slots 1 and 2)
- ▶ G - Power supply 1 (shown with DC power supply installed)
- ▶ H - Optional power supply 2 (shown with filler panel)
- ▶ I - EarthGround studs (dual hole lug shown)
- ▶ J - GbE NIC2
- ▶ K - GbE NIC1
- ▶ L - USB0 and USB1 (USB0 on top, USB 3.0)
- ▶ M - RMM4 Dedicated Server Management NIC (DMA)
- ▶ N - USB2 and USB3 (USB2 on top, USB 2.0)
- ▶ O - Video connector
- ▶ P - TAM dry relay connector
- ▶ Q- Power supply LED signals
- ▶ R - Power Supply 1 (shown with AC power supply installed)



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