

CG2400

Telco Central Office and AI Edge Solutions



Compact 2U, 20-Inch Deep Carrier Grade Rackmount Server

- ▶ Dual-socket 1st/2nd Generation Intel® Xeon® Scalable processors
- ▶ Designed to meet NEBS-3/ETSI certifications;
- ▶ 6x hot-swap, tool-less, 2.5" SAS HDDs / SATA SSDs
- ▶ Up to 7x PCIe slots for flexible I/O acceleration

CG2400 PRODUCT OVERVIEW

BENEFITS OF DUAL 2ND GEN INTEL XEON SCALABLE

In keeping with a proven history dedicated to designing 'long-life' carrier grade communication servers, Kontron introduces the CG2400.

Designed to meet NEBS-3/ETSI certification this ruggedized yet sophisticated server is the ideal server to support most telecom fixed-wireless central office or any mission-critical edge use cases that require High Availability. Services can range from security and fintech, to surveillance and deep learning data and video analytics.

The CG2400 server can also support manufacturing, industrial, oil & gas, utility, and even military applications where a rugged, highly reliable server is required for harsh environments that involve dust, high altitude, fire hazard, earthquake propensity, and high ambient temperatures.

The Kontron CG2400 Carrier Grade Server is a compact, high-density, rack-mount server with support for the Intel® Xeon® Scalable processor series and up to sixteen DDR4 DIMMs (eight for each processor). The CG2400 server also supports High Availability features such as hot-swappable and redundant power supply modules, hot-swappable and redundant fans, and up to six hot-swappable 2.5-inch hard disk drives, as well as two M.2 NVMe storage or Z280 flash storage support.

For added versatility, the CG2400 can support up to seven (7) PCIe cards. For advanced power management, any PCIe card that consumes more than 75W, such as a GPU card, can then be directly fed by an internal Power Distribution Board that provides auxiliary power.

The scalable architecture of the CG2400 server supports a variety of operating systems.

► FEATURES AND BENEFITS

DUAL SOCKET SUPPORT FOR FIRST & SECOND GENERATION INTEL® XEON® SCALABLE	Intel® Xeon® Platinum 81xx/82xx processor Intel® Xeon® Gold 61xx/62xx processor Intel® Xeon® Gold 51xx/52xx processor Intel® Xeon® Silver 41xx/42xx processor Intel® Xeon® Bronze 31xx/32xx processor
MINIMUM FIVE YEAR LIFECYCLE SUPPORT*	Reduced customer risk with fewer platform transitions and greater lifecycle stability.
SHALLOW 20-INCH (508 MM) 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. (Note: Functionality available via firmware update – future plan)
HOT-SWAP, REDUNDANT FANS	Greater uptime and improved serviceability.
DUAL REAR-PANEL 10GBE NIC (Cu) PORTS	Two on-board NIC ports are standard.
SIXTEEN RDIMM MEMORY SLOTS (SUPPORTS UP TO DDR4-2933MHZ; MAXIMUM SPEED DEFINED BY PROCESSORS USED)	Supports six 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 SATA / 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. (SAS drives support require an additional PCIe RAID or HBA controller)
INTEGRATED INTEL PCH RAID (SW) 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; IPMI 2.0 and SNMP v2c and v3 compliant
CUSTOMIZABLE FRONT BEZEL	Adaptable to customer needs and environment.

*From launch

► OPTIONAL FEATURES AND BENEFITS

ADVANCED REMOTE MANAGEMENT	Advanced management features including remote KVM and virtual media.
FLASH MEMORY SUPPORT	Choice of multiple flash memory options are available: Internal bootable 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 x8 slots; (2) Two PCI-E x16 slots; (3) Two PCI-E x8 or one PCI-E x16

► TECHNICAL SPECIFICATIONS

PROCESSOR	First or Second Generation Intel® Xeon® Scalable
CHIPSET	Chipset Intel® C622 Chipset (PCH)
CONNECTIONS	
PCI ADAPTER SLOT SUPPORT	Supports two risers (4 FL/FH cards) and 3 LP adapters for a total of 7 PCIe Gen2/Gen 3 I/O cards Two riser options for each of two PCIe slots 2 slot FL/FH PCIe x8 passive (right side* - Gen3) 2 slot FL/FH PCIe x8 passive (left side* - Gen3) 1 slot FL/FH PCIe x16 passive (right side* - Gen3) 1 slot FL/FH PCIe x16 passive (left side* - Gen3)
SERIAL PORTS	RJ-45 serial connector in front
VIDEO PORTS	One DB-15 video connector (rear)
USB 3.0 PORTS	Four rear
USB 2.0 PORTS	One front
MANAGEMENT PORTS	One RJ-45 connector to support ASPEED AST2500 BMC
STORAGE	
TYPE	Up to six 2.5-inch hot-swap SATA solid-state drives
REDUNDANCY	Software RAID 0, 1 and 10
INTERNAL	2x M.2 NVMe storage 2280 (80mm) flash storage
EXTERNAL	Carrier with six HDD / SSD tray
SD FLASH STORAGE	Two (2) front accessible Secure Data flash media devices are supported
MEMORY	
TYPE	Up to DDR4-2933 MT/s ECC depending on processor selection
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), NOTE: 105W CPU or less for 55°C
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	-60 m to 1,800 m (-197 ft to 5,906 ft) without temperature derating 3,900 m (12,795 ft) 40°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
ROHS	Compliant to RoHS Recast Directive 2011/65/EU
SAFETY COMPLIANCE	
USA/CANADA	CSA Certified to UL 60950-1 2nd Edition and CSA C22.2 No. 60950-1-07 2nd Edition
EUROPE	CE mark to Low Voltage Directive 2014/35/EU and EN 62368-1
INTERNATIONAL	CB report and certificate to IEC 62368-1

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

The CG2400 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 CG2400 is ideal for other types of rugged applications, such as in the Military and Medical segments, where meeting tough environmental requirements is critical.

The CG2400 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 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.

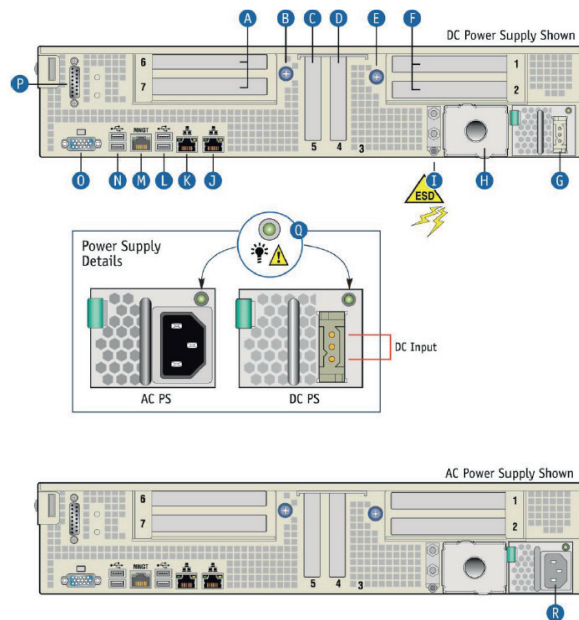
In addition, they benefit from being able to use a greater variety of hard disk types and sizes instead of being limited to a few "extra rugged" devices.

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 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.

► CG2400 - REAR OVERVIEW

- ▶ A - 2-slot FL/FH PCI assembly (slots 6 and 7)
- ▶ B - Thumb screw to secure PCI assembly (A)
- ▶ C - LP PCI adapter (slot 5)
- ▶ D - LP PCI adapter (slot 4)
- ▶ E - Thumb screw to secure PCI assembly (F)
- ▶ F - 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 - 10GbE NIC2
- ▶ K - 10GbE NIC1
- ▶ L - USB0 and USB1 (USB0 on top, USB 3.0)
- ▶ M - Dedicated Server Management NIC
- ▶ N - USB2 and USB3 (USB2 on top, USB 3.0)
- ▶ 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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