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
Telco Central Office and AI Edge Solutions
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-swap and redundant power supply modules, hot-swappable and redundant fans, and up to six hot-swap 2.5-inch hard disk drives, as well as two M.2 NVMe storage or 2280 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

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
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| 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

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<tr>
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| 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 drives;
| | 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

<table>
<thead>
<tr>
<th>PROCESSOR CHIPS</th>
<th>First or Second Generation Intel® Xeon® Scalable Chipset Intel® C622 Chipset (PCH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONNECTS PCI ADAPTER SLOT SUPPORT</td>
<td>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 (left side* - Gen3) 1 slot FL/FH PCIe x16 passive (left side* - Gen3)</td>
</tr>
<tr>
<td>SERIAL PORTS</td>
<td>RJ-45 serial connector in front</td>
</tr>
<tr>
<td>VIDEO PORTS</td>
<td>One DB-15 video connector (rear)</td>
</tr>
<tr>
<td>USB 3.0 PORTS</td>
<td>Four rear</td>
</tr>
<tr>
<td>USB 2.0 PORTS</td>
<td>One front</td>
</tr>
<tr>
<td>MANAGEMENT PORTS</td>
<td>One RJ-45 connector to support ASPEED AST2500 BMC</td>
</tr>
<tr>
<td>STORAGE</td>
<td>Up to six 2.5-inch hot-swap SATA solid-state drives</td>
</tr>
<tr>
<td>REDUNDANCY INTERNAL</td>
<td>Software RAID 0, 1 and 10</td>
</tr>
<tr>
<td>EXTERNAL</td>
<td>2x M.2 NVMe storage 2280 (80mm) flash storage</td>
</tr>
<tr>
<td>SD FLASH STORAGE</td>
<td>Carrier with six HDD / SSD tray</td>
</tr>
<tr>
<td>MEMORY</td>
<td>To DDR4-2933 MT/s ECC depending on processor selection</td>
</tr>
<tr>
<td>DIMM SLOTS CAPACITY</td>
<td>Sixteen (16) RDIMM or LRDIMM slots 2048GB (non-mirrored mode with 128GB DIMMs)</td>
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<tr>
<td>PHYSICAL HEIGHT</td>
<td>3.45 inches (87.6 mm) x 17.14 inches (435.3 mm) x 20 inches (508 mm)</td>
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<tr>
<td>WIDTH</td>
<td></td>
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<tr>
<td>DEPTH</td>
<td></td>
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<tr>
<td>ENVIRONMENTAL TEMPERATURE, OPERATING</td>
<td>-5°C to 55°C (41º F to 131º F), NOTE: 105W CPU or less for 55ºC</td>
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<tr>
<td>TEMPERATURE, NON-OPERATING</td>
<td>-40°C to 70°C (~-40º F to 158º F)</td>
</tr>
<tr>
<td>HUMIDITY</td>
<td>95%, non-condensing at temperatures of 23º C (73º F) to 40º C (104º F)</td>
</tr>
<tr>
<td>ALTITUDE</td>
<td>Designed to meet or exceed Telcordia GR-63 and ETSI EN 300 019 humidity requirements for operating, transport and storage environments.</td>
</tr>
<tr>
<td>SHOCK AND VIBRATION</td>
<td>-60 m to 1,800 m (-197 ft to 5,906 ft) without temperature derating 3,900 m (12,795 ft) 40ºC</td>
</tr>
<tr>
<td>ELECTROSTATIC DISCHARGE (ESD)</td>
<td>Meets or exceeds Telcordia GR-63 and ETSI EN 300 019 requirements for operating transport and storage environments.</td>
</tr>
<tr>
<td>ROHS</td>
<td>Meets or exceeds NEBS and CE mark requirements for ESD immunity Tested ESD levels up to 15kV air discharge and 8kV contact discharge</td>
</tr>
<tr>
<td>SAFETY COMPLIANCE USA/CANADA</td>
<td>CSA Certified to UL 60950-1 2nd Edition and CSA C22.2 No. 60950-1-07 2nd Edition</td>
</tr>
<tr>
<td>EUROPE</td>
<td>CE mark to Low Voltage Directive 2014/35/EU and EN 62368-1</td>
</tr>
<tr>
<td>INTERNATIONAL</td>
<td>CB report and certificate to IEC 62368-1</td>
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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, VoIP, 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.

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**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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