kontron

» Carrier Grade Server TIGH2U «

- » NEBS-3 / ETSI compliant
- » Long life support (3 years)
- » Short depth, ruggedized 2U chassis
- » Dual, redundant AC or DC power option
- » Telco alarm management
- » Hardware RAID option
- » Industry-leading performance/watt

Carrier Grade Server TIGH2U

Product Overview

Carrier Grade Server TIGH2U is a NEBS-3 and ETSI-compliant 2U carriergrade rack-mount server, delivering industry-leading performanceper-watt over previous-generation rackmount servers. It features the Quad-Core Intel® Xeon® processor 5400 series — based on Intel's latest 45nm technology — to provide breakthrough performance and energy efficiency for compute- and I/O-intensive applications and workloads.

This high-performing server is an excellent choice for the demanding environment and limited space of the central office and high availability data centers.

It enables OEMs and TEMs to create specialized, valueadded solutions for a variety of telecom applications including unified messaging, SoIP, call control, media and signaling gateways, and operational system support.

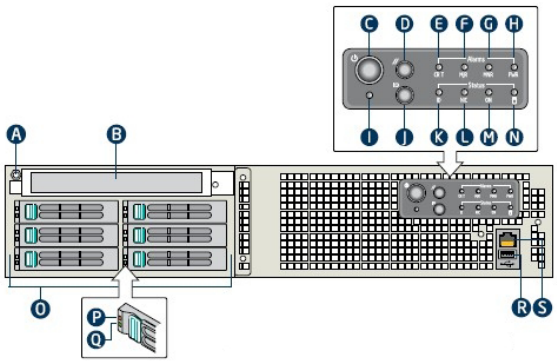
The TIGH2U is designed to be fire-resistant and to withstand extreme heat, humidity, altitude and zone 4 earthquake shock. Advanced server management and telco alarm management features provide visual, audible (optional) and SNMP event indications of faults, consistent with the rigid requirements of the telecom central office environment.

Features & Benefits

Standard Feature	Benefit
Support for two Quad-Core Intel® Xeon® processors 5400 series	New 45nm enhanced Intel® Core™ microarchitecture boosts performance on multiple applications/user environments and data-demanding workloads Faster performance with improved energy efficiency enables denser deployments
Three-year extended life cycle support with possible extension to five years	Reduces customer risk for long product roll-outs Fewer platform transitions requiring additional testing and software
Shallow 20-inch depth	Increases installation and service flexibility
600W AC or DC hot-swap power supply	Flexibility of installation and applications; uninterrupted operation (DC) Upgradeable to second power supply for redundancy
Telco alarm management	Front-panel feature supports central office alarm systems
Two rear-panel GbE NIC (Cu) ports	Scalable Ethernet ports, upgradeable to 20 GbE (max) based on PCI configuration and optional I/O modules
Eight FB-DIMM slots (240-pin DDR2-533/667 MHz)	Maximum 32 GB memory (non-mirrored mode)
Drive trays for up to six hot-swap 2.5-inch SAS hard disk drives	High-performance, enterprise-class drives for 24/7 operation
Bay supports optical drive (purchased separately)	Accommodates Slimline CD-ROM; CD-R/W; CD DVD-R/W
Up to five PCI slots for flexibility and additional I/O	Low-profile riser supports two PCIe x4 slots Full-height, full-length riser supports three slots (two PCIe x4 [or 1 PCIe x8] and one PCI-X)

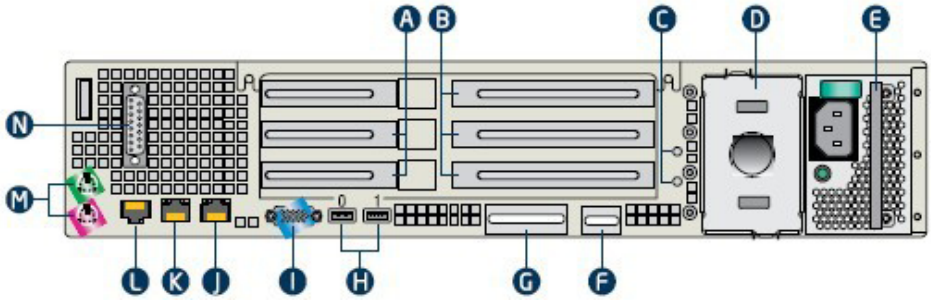
Optional Features	Benefit
Hardware RAID 5	Greater protection and reliability of data storage
Intel® Remote Management Module 2	Lights-out management
Flash storage capability supports 3rd party solid state drives (purchased separately)	High-speed, high-density storage, faster boot times, USB interface
Optional I/O modules (rear)	Enables additional external SAS storage or two additional GbE NIC (Cu) ports on rear panel
Additional full-height riser options for PCI-X	PCI-X (active): three independent PCI-X, each with maximum 133 MHz PCI-X (passive): two PCI-X with maximum 100 MHz and one PCI-X (66 MHz) all on a shared PCI bus

CARRIER GRADE SERVER TIGH2U FRONT PANEL



A – Anti-static connection
B – Optical drive bay (optional) or filler panel
C – Power switch
D – Reset Switch
E – Critical alarm LED
F – Major alarm LED
G – Minor alarm LED
H – Power alarm LED
I – NMI switch
J – ID switch
K – System ID LED
L – NIC activity LED
M – Main power LED
N – HDD activity LED
O – Hard drive bays (supports six 2.5" SAS)
P – Drive fault indicator (one per hard drive)
Q – Drive activity indicator (one per hard drive)
R – USB port 2 connector
S – RJ45 serial port connector (COM 2)

CARRIER GRADE SERVER TIGH2U REAR PANEL



A – Low-profile PCIe add-in cards or filler panels
B – Full-height PCI-X/PCIe add-in cards or filler panels
C – Grounding studs (for DC system)
D – Power supply #2 slot (filler panel shown)
E – Power supply #1 (AC module shown; DC modules also available)
F – GCM port connector (optional) or filler panel
G – I/O expansion module connector (optional) or filler panel
H – USB 0 and USB 1 port connectors
I – Video connector
J – GbE NIC 2 connector
K – GbE NIC 1 connector
L – RJ45 serial port connector (COM 2)
M – PS/2 keyboard and mouse connectors
N – Telco alarms connector

Technical Information

Processor	
Type	Two (2) Quad-Core Intel® Xeon® processors 5400 series with 12 MB cache
Front-side bus	1333 MHz
Chipset	
Memory controller hub	Intel® 5000P Memory Controller Hub (MCH)
I/O controller hub	Intel® 6321ESB I/O Controller Hub (ICH)
Connections	
Two (2) PCI risers supporting up to five PCI slots (included)	One (1) low-profile riser supporting two PCIe x4 slots
	One (1) full-height, full-length riser supporting three slots (two PCIe x4 [or one PCIe x8] and one PCI-X)
Additional full-height riser configuration (optional)	PCI-X (active): Three (3) independent PCI-X slots (133 MHz max)
	PCI-X (passive): Two (2) PCI-X slots (100 MHz max) and one PCI-X slot (66 MHz) on shared bus
GbE NIC (CU) ports	Two (2) on base board (rear)
	Two (2) via optional I/O Module (rear, optional)
USB 2.0 ports	Three (3): One front/two rear

Technical Information

Environmental	
Temperature, operating	+5° C to +40° C (41° F to 104° F)
Temperature, short-term operating (<96 hrs)	-5° C to 50° C
Temperature, nonoperating	-40° C to 70° C (-40° F to 158° F)
Altitude	0 to 1,800 m (0 to 5,905 ft) @ 40° C 0 to 4,000 m (0 to 13,123 ft) @ 30° C
Humidity, operating	5% to 85%
Humidity, short-term operating	5% to 90%
Humidity, non-operating	93%, non-condensing at temperatures of 23° C (73° F) to 40° C (104° F)
Vibration, operating	Swept sine survey at an acceleration amplitude of 0.1 G from 5 to 100 Hz and back to 5 Hz at a rate of 0.1 octave/minute; 90 minutes per axis on all three axes as per Bellcore GR-63-CORE standards)
Vibration, non-operating	Swept sine survey at an acceleration amplitude of 0.5 G from 5 to 50 Hz at a rate of 0.1 octaves/minute, and an acceleration amplitude of 3.0 G from 50 to 500 Hz at a rate of 0.25 octaves/minute, on all three axes as per Bellcore GR-63-CORE standard. 2.2 Grms, 10 minutes per axis on all three axes
Shock, operating	Half-sine 2 G, 11 ms pulse, 100 pulses in each direction, on each of the three axes
Storage	
Type	SAS 2.5-inch hot-swap HDD
Redundancy	RAID 1 and RAID 5
Internal	Carrier with six HDD trays
External	SAS port on rear supports JBOD
Memory	
Maximum memory capacity	32 GB (non-mirrored mode)
Number of DIMM slots	Eight (8)
Memory type	FB-DIMM technology at 533 and 667 MHz
Physical	
Height	3.45 inches (87.6 mm)
Width	17.14 inches (435.3 mm)
Depth	20 inches (508 mm)
Regulatory Compliance	
Safety	UL 60950-1, 1st Edition/CSA 22.2 60950-1, Low Voltage Directive 2006/95/EC, GS to EN60950-1, 1st Edition CB Certificate and Report to IEC60950-1, 1st Edition and all international deviations
Electromagnetic Compatibility:	
Australia/New Zealand	C-tick, Class A
Canada	ICES-003, Issue 4, Class A Limit
Europe	EMC Directive, 2004/108/EC EN55022, Class A Limit, Radiated and Conducted Emissions EN55024 Immunity Characteristics for ITE EN61000-4-2 ESD Immunity EN61000-4-3 Radiated Immunity EN61000-4-4 Electrical Fast Transient EN61000-4-5 Surge EN61000-4-6 Conducted RF EN61000-4-8 Power Frequency Magnetic Fields EN61000-4-11 Voltage Fluctuations and Short Interrupts EN61000-3-2 Harmonic Currents EN61000-3-3 Voltage Flicker
International	CISPR 22, Class A Limit, CISPR 24 Immunity
Japan	VCCI Class A
Korea	RRL Approval, Class A
Russia	Gost Approval
Taiwan	BSMI Approval, CNS 13438, Class A and CNS13436 Safety
USA	FCC 47 CFR Parts 2 and 15, Verified Class A Limit

CORPORATE OFFICES

Europe, Middle East & Africa

Oskar-von-Miller-Str. 1
85386 Eching/Munich
Germany

Tel.: +49 (0)8165/ 77 777
Fax: +49 (0)8165/ 77 279

info@kontron.com

North America

14118 Stowe Drive
Poway, CA 92064-7147
USA

Tel.: +1 888 294 4558
Fax: +1 858 677 0898

info@us.kontron.com

Asia Pacific

17 Building,Block #1,ABP.
188 Southern West 4th Ring Road
Beijing 100070, P.R.China

Tel.: + 86 10 63751188
Fax: + 86 10 83682438

info@kontron.cn

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