» IP Network Server NSN2U «

» Scalable I/O with high network port density
» Industry-leading performance/watt
» Long life support (3-5 years)
» Dual, redundant AC or DC power option
» Hardware RAID option
» Improved serviceability with hot-swap capability

The IP Network Server NSN2U combines network port density, processor performance, and advanced technology features in a compact 2U rackmount chassis, ideally suited for network data applications with intense I/O and compute performance requirements. Supporting the Intel® Xeon® Processor 5500 series and 5600 series, the NSN2U combines greater performance and power efficiency to provide improved performance-per-watt over previous-generation rack mount servers.

The NSN2U is an excellent choice for network security applications - including intrusion detection/intrusion prevention, VPN/firewall, and unified threat management solutions. It is also well-suited for enterprise application acceleration and content caching, and is an ideal platform for running Telco SoIP, including IMS, IPTV, video on demand (VoD), SIP application servers, IP-PBX, and IP-PSTN gateways.

To add to the many benefits already inherent in Kontron's IP Network Server family, the NSN2U introduces several new key features such as support of PCI-E Gen2, Power Management Bus, DDR3 memory, hot-swap/redundant fans, and increased memory and storage capacity.

Technical Information

Feature	Benefit
Support for two Intel® Xeon® Processors 5500 Series or 5600 Series	Better power/performance ratios with 5600 processor due to 32nm process, smaller die, and 12 cores/24 threads available per system enable significant performance improvement for multi-threaded applications. Improved performance with larger 12M L3 cache.
Three-to-five year lifecycle support	Reduced customer risk with fewer platform transitions and greater lifecycle stability
600W AC or DC hot-swap, redundant power supplies with PMBus support	Flexibility of either AC or DC power installation Greater variety of power management schemes available via support of PMBus specification
Hot-swap, redundant fans	Greater uptime and improved serviceability
Two rear-panel GbE NIC (Cu) ports	Two on-board NIC ports are standard.
Twelve RDIMM/UDIMM memory slots (DDR3-800/1066/1333)	Maximum 96 GB memory Integrated memory controller in CPU enables higher performance at lower power
Drive trays for up to eight hot-swap 2.5-inch SAS or SATA hard disk drives	Choice of SAS or SATA 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 supported
Bay supports optical drive (purchased separately)	Accommodates Slimline CD-ROM; CD-R/W; CD DVD-R/W
Customizable front bezel	Adaptable to customer needs and environment

Optional Features	Benefit
Integrated Hardware RAID w/ Battery Backup	Supports RAID levels 0, 1, 5, 6 providing greater protection, reliability, and performance
Remote Management	Lights-out management via optional Intel® Remote Management Module 3 (RMM3) with GCM4 (General Communications Module 4) Dedicated Management NIC Improved integration over previous versions
Flash Memory Support	Choice of multiple flash memory options are available: » Internal bootable USB flash device » SATA solid state drives
Optional I/O Module	Enables additional Quad GbE ports or Dual 10 GbE ports
Up to five PCI slots for flexibility and additional I/O	Up to five PCI Express® and/or PCI-X slots supported Faster performance with PCI-E Gen2

Technical Information

Processor

Type	Two (2) Intel® Xeon® Processors 5500 Series or 5600 Series
Chipset	Intel® 5520 Chipset + ICH10R

Connections

PCI adapter slot support	The following riser card options are supported: Five full-height PCI Express®* slots Three full-height PCI Express®* slots (passive)	Two full-height PCI-X slots with an on-board PXH bridge chip and one full height and two low-profile PCI Express®* slots
GbE NIC ports	Two (2) RJ-45 10/100/1000 Mb network connects (rear - standard)	
Optional I/O Module	Enables additional Quad GbE ports or Dual 10 GbE ports	
Serial ports	RJ-45 serial COM2 connector (one front / one rear)	
Video port	One DB-15 video connector (rear)	
USB 2.0 ports	Five (5): one front / four rear	
Management ports	One RMM3/GCM4 connector to support optional Intel® Remote Management Module 3	

Storage

Type	Up to eight 2.5-inch SAS or SATA hot-swap hard drives
Redundancy	RAID 1, RAID 5, RAID 6
Internal	Carrier with eight HDD trays
Optical Storage	Bay for slimline SATA optical drive

Memory

Memory type	DDR3 technology at 800/1066/1333 MHz
Number of DIMM slots	Twelve (12) RDIMM or UDIMM slots
Maximum memory capacity	96 GB (non-mirrored mode)

Physical

Height	3.45 inches (87.6 mm)
Width	17.14 inches (435.3 mm)
Depth	24 inches (610 mm)

Environmental

Temperature, operating	10ºC to 35ºC (50º F to 95º F)	
Temperature, non-operating	-40ºC to 70ºC (-40º F to 158º F)	
Humidity, non-operating	95%, non-condensing at temperatures of 23º C (73º F) to 40º C (104º F)	
Altitude	0 to 900m (0 to 2953 ft)@ 35C max. The max ambient limit is derated by 1oC for each additional 300m above 900m.	
Vibration, non-operating	5 Hz @ $0.001g^2$/Hz to 20Hz @ $0.01g^2$/Hz (slope up)* 20 Hz to 500Hz @ $0.01g^2$/Hz (flat)* Input acceleration is 2.20g RMS*	10 min per axis in all 3 axes on all samples* Random control limit tolerance in +/- 3dB*
Shock, operating	Half-sine 2 G, 11 ms pulse, 100 pulses in each direction, on each of the three axes*	
Shock, non-operating	Trapezoidal, 25 G, 205 inches/sec delta V, two drops in per face, (total 12 drops) *	
Electrostatic discharge (ESD)	Tested ESD levels up to 12kV (kilovolts) air discharge and up to 8kV contact discharge without physical damage*	
Acoustic	Sound power: 7B max at ambient temperatures < 23 +/-2°C*	
RoHS	Complies with RoHS Directive 2002/95/EC	

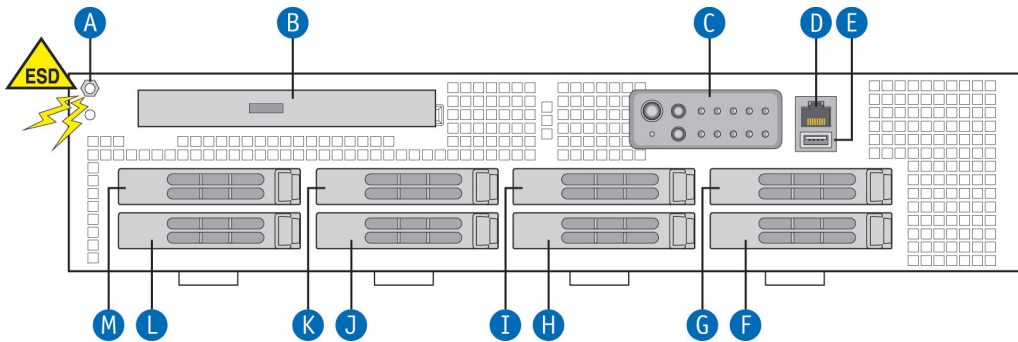*per Intel®'s 25-GS0009 Boards and Systems Environmental Standards Governing Spec

Safety Compliance

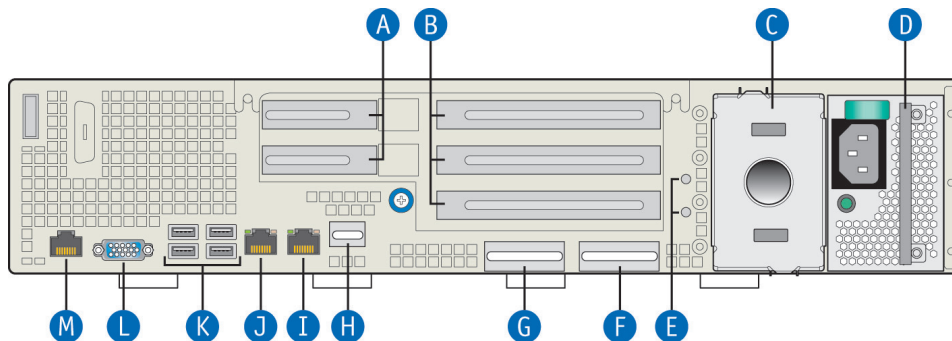|	
USA/Canada	UL 60950-1, 1st Edition/CSA 22.2 No. 950-1
Europe	Low Voltage Directive, 73/23/EEC; TUV/GS to EN60950-1, 1st Edition
International	CB Certificate and Report to IEC60950-1, 1St Edition and all international deviations

Electromagnetic Compatibility

Australia/New Zealand	EN55022, Class A Limit
Canada	IC ICES-003 Class A Limit
Europe	EMC Directive, 2004/108/EC, EN55022, Class A Limit, Radiated & Conducted Emissions, EN55024 Immunity Characteristics for ITE, EN61000-4-2 ESD Immunity (level 2 contact discharge, level 3 air discharge), EN61000-4-3 Radiated Immunity (level 2), EN61000-4-4 Electrical Fast Transient (level 2), 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 ITE (CISPR 22, Class A Limit)
Korea	RRL Approval, Class A
Russia	Gost Approval (EMC and safety)
Taiwan	BSMI Approval, CNS 13438, Class A and CNS13436 Safety
USA	FCC 47 CFR Parts 2 and 15, Verified Class A Limit

IP Network Server NSN2U front panel

A – Anti-static connection
B – Optical drive bay (optional)
C – Status LEDs/switches

D – Serial port (COM 2)
E – USB port
F–M – Hard drive bay (supports eight 2.5" SAS/SATA)

IP Network Server NSN2U REAR panel

A – Low-profile add-in cards (filler panels shown)
B – Full-height add-in cards (filler panels shown)
C – Power supply #2 slot (filler panel shown)
D – Power supply #1 (AC module shown;
    DC modules also available)
E – Grounding lugs (for DC)
F – Optional I/O module ports (filler panel shown)

G – Optional I/O module ports (filler panel shown)
H – Optional GCM port (filler panel shown)
I – RJ-45 NIC 2 Connector
J – RJ-45 NIC 1 Connector
K – USB ports
L – Video connector
M – RJ-45 Serial port (COM 2)

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