



## Great Value for HPC and Server Consolidation

Jointly developed with Intel, the QSSC-S4R is powered by the Intel's latest generation Xeon® Processor 7500 & E7-8800/4800/2800 series for the expandable server segment. Designed specifically for high performance computing environments such as datacenters and large enterprises, the rack mounted QSSC-S4R features significant benefits including expandability with up to 4 processors with 40 independent processor cores, 1 Terabyte system memory via 64 memory DIMMs, 10 PCIe expansion slots, and as much as 4TB of internal storage.



### Unsurpassed Computing Power

QSSC-S4R delivers unmatched flexibility with its 4U form-factor, built in support for up to 40 processor cores, and increased processor cache with the Intel® Xeon® Processor 7500 & E7-8800/4800/2800 series. The QSSC-S4R architecture gives the IT manager the extra headroom to run simultaneous processes, greater flexibility to deploy server virtualization/consolidation, and large enterprise level capabilities to run business critical applications.

### High Memory Capacity – up to 1 TB!

QSSC-S4R overcomes the space limitation of the 4U form factor and can accommodate up to eight hot-swappable 8-DIMM memory riser boards. With 1 TB of system memory, this is double the capacity of the previous generation in this category. From a business planning perspective, this system offers future proof capability to host virtual machines and memory-intensive HPC applications, such as engineering design automation, geophysical modeling, seismic applications, etc. From a memory-budget perspective, the system supports lower cost 4 GB DDR3 registered (with ECC) DIMMs for a total of up to 256 GB.

Or alternately, QSSC-S4R supports memory DIMMs of newer DRAM technology and of larger DIMM capacity (at higher cost), such as 8GB and 16GB DDR3 registered DIMMs.

### Reliable Internal Storage

QSSC-S4R supports up to eight 2.5-inch hot-swappable SAS II /SATA II hard drives, delivering up to 4TB of internal storage for demanding data needs. This is the ideal solution for datacenter applications, enterprise database, data warehousing analysis, streaming media, messaging platforms, etc.

### I/O Riser Board and PCI Express

The QSSC-S4R I/O riser board houses the integrated Baseboard Management Controller (iBMC). It also extends server versatility by adding additional I/O capacity without using valuable PCIe slots. The system provides additional quad Gb NIC ports, one video connector, one DB9 serial port connector and support for Intel® Remote Management Module 3. In addition, QSSC-S4R supports up to 10 PCIe devices (including 4 hot-swappable), reducing server downtime, minimizing data I/O bottlenecks, and providing high bandwidth and scalability.

### Redundant Cooling and Power Supply

QSSC-S4R provides high-scale system reliability and availability by redundant power supply (3+1 or 2+2) and redundant cooling (7+1) designs. Both QSSC-S4R power supply units (PSU) and the system fans are designed with hot-swap capability.

With QSSC-S4R server systems, datacenters and large enterprises can gain competitive advantage with increased IT productivity, flexibility, and systems manageability. It is an ideal solution that datacenters and large enterprises can count on now and in the future.

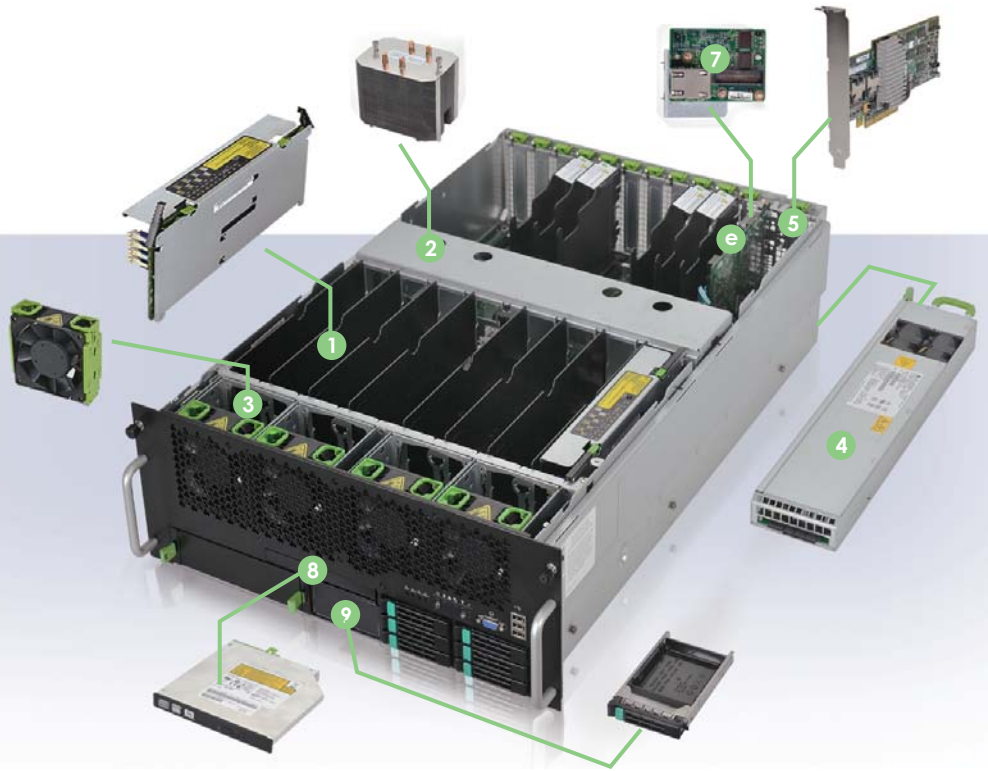
### Key Applications:

- Server virtualization/ consolidation
- Desktop consolidation
- Large database and data analysis
- Business-critical applications (ERP, CRM...etc.)
- High performance computing applications



# Value SKU

## Greater Value for Customizable Enterprise Computing



### Standard Build:

- a. Support for up to four Intel® Xeon® 7500 & E7-8800/4800/2800 series processors
- b. Support for up to 64 registered DIMM sockets DDR3 800/978/1066 MHz via Intel® 7500 scalable Memory Buffer; support for memory sparing and mirroring (Default configuration: 1 memory board)
- c. Support for hot plug/non hot plug PCI Express (PCIe) Gen2/Gen1 plus 11 total PCIe slots:

#### 1). 10 PCIe slots:

- Slot 1-2 & 6-7: PCIe Gen2x8, 3/4 length, hot swap capable, x8 connector
- Slot 3-4: PCIe Gen2x4, 1/2 length, non hot swap, x8 connector
- Slot 5: PCIe Gen2x16, 3/4 length, non hot swap, x16 connector
- Slot 8: PCIe Gen2x4, 3/4 length, non hot swap, x8 connector
- Slot 9-10: PCI Gen1x4, 1/2 length, non hot swap, x8 connector

#### 2). 1 dedicated SAS riser slot:

- SAS Riser Slot: PCIe Gen2x8, 1/2 length, non hot swap, x8 connector

- d. Up to 6 hard drive bays supporting 2.5-inch hot-swap SATA II hard drives with software RAID support
- e. I/O Riser Board (for rear IO and provides support for Intel® RMM3 LAN Management Module)
- f. Quad Onboard Gigabit (Gb) Ethernet ports

- g. Four 80mm variable-speed non-redundant fan modules
- h. Two 110V/220V non-redundant power supply modules
- i. 5.25-inch peripheral bay for internal back-up and archive

### Optional Accessories:

- 1. Support for up to eight 8-RDIMM memory boards
- 2. Processor Heat-sinks
- 3. Additional four 80mm hot-swap variable-speed fan modules for 7+1 redundant cooling
- 4. Additional two hot-swap 110/220V, 850W high efficiency power supply modules for 2+2 or 3+1 power redundant configuration
- 5. SAS Riser Board (6G) for support of up to eight hot-swap 2.5-inch SAS II hard disk drives with hardware RAID support
- 6. iBBU07 Remote Converter Kit (including one BBU cable and one converter module)
- 7. Intel® Remote Management Module 3 Kit
- 8. SATA DVD-RW Kit to support removable media
- 9. 2.5-inch Hard Drive Carrier
- 10. Rack-rails
- 11. Rack cable management arm



# QSSC-S4R Server System

## Processors Supported

Up to four multi-core Intel® Xeon® 7500 & E7-8800/4800/2800 series processors

## System Memory

Capacity	Support for up to eight 8-DIMM memory boards Up to 1TB of system memory via 64 DIMM sockets
Memory Support Type	DDR3-1066 and DDR3-1333 Registered DIMMs (with ECC) running at 800, 978 and 1066MHz
DIMM Support Sizes	2GB, 4GB, 8GB & 16GB

## Integrated Onboard Modules

Chipset	Intel® 7500 Chipset
Graphics	IBMC (Pilot II) with supported VGA resolution to be 1600x1200
Integrated network	Two Intel® 82576 Dual Gigabit Ethernet connections

## Input/Output

PCI Expansion	10 PCI Express slots: - Four hot-swap PCIe Gen2 x8 slots (Slot 1 - 2 & Slot 6 - 7) - Three PCIe Gen2 x4 slots (Slot 3 - 4 & 8) - One PCIe Gen2 x16 slot (Slot 5) - Two PCIe Gen1 x4 slots (Slot 9 - 10) 1 dedicated SAS riser slot: - One designated PCIe Gen-2 x8 slot for SAS riser board
USB	Five USB 2.0 connectors (three front, two rear access)
Serial Port	One rear DB9 connector
Video Port	One front 1280 x 1024 standard video connector One rear 1600 x 1200 standard video connector
LAN Port	Four Gigabyte Ethernet Ports

## Dimensions

Form Factor	4U Rack
Height	6.84 inches (173.8mm)
Width	16.7 inches (424mm)
Depth	27.7 inches (704mm)

## Storage, Cooling and Power

	Value SKU*	Enterprise SKU
Supported Hard Drives	Up to 6 hot-swap 2.5" SATA II HDDs	Up to 8 hot-swap 2.5" SAS II/SATA II HDDs
Peripheral Drives	One 5.25" half height device bay	One 5.25" half height device bay
Default Memory Board	One 8-DIMM memory board	Four 8-DIMM memory boards
SAS/SATA Controller	Onboard Intel® ICH10R SATAII 3.0Gb/s	6Gb SAS RAID riser card (extra item)
RAID Function Support	SATA RAID 0,1,10,5	SAS/SATA RAID 0,1,10,5
System Fan	Four variable-speed non-redundant fan modules	Eight hot-swap variable-speed fan modules with 7+1 redundant cooling
Power Supply	Two 850W high efficiency non-redundant power supplies	Four 850W high efficiency power supplies with 2+2 or 3+1 redundancy

\* Value SKU is upgradable to full-featured Enterprise SKU by adding optional accessories

## Server Management

Intelligent Platform Management	Intelligent Platform Management Interface (IPMI) 2.0
Remote Management	Intel® Remote Management Module 3 (optional)

## Server Management

Ambient Temperature	Operating: 10°C to 35°C (50°F to 95°F) Non-operating: -40°C to 70°C (-40°F to 158°F)
Acoustic	Sound power: < 7.0 dBA at ambient temperature < 23° C measured using the Dome Method
Electrostatic discharge	Tested to ESD levels up to 15 kilovolts (kV) air discharge and up to 8 kV contact discharge without physical damage

## Supported Operating Systems

Supported Operating Systems are outlined in the AVL which could be downloaded at [www.qssc.it.com](http://www.qssc.it.com)

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