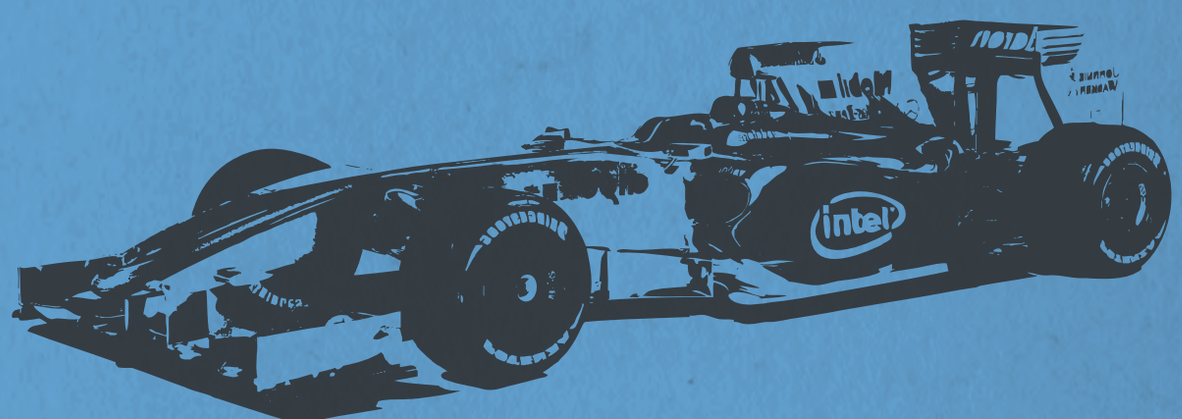
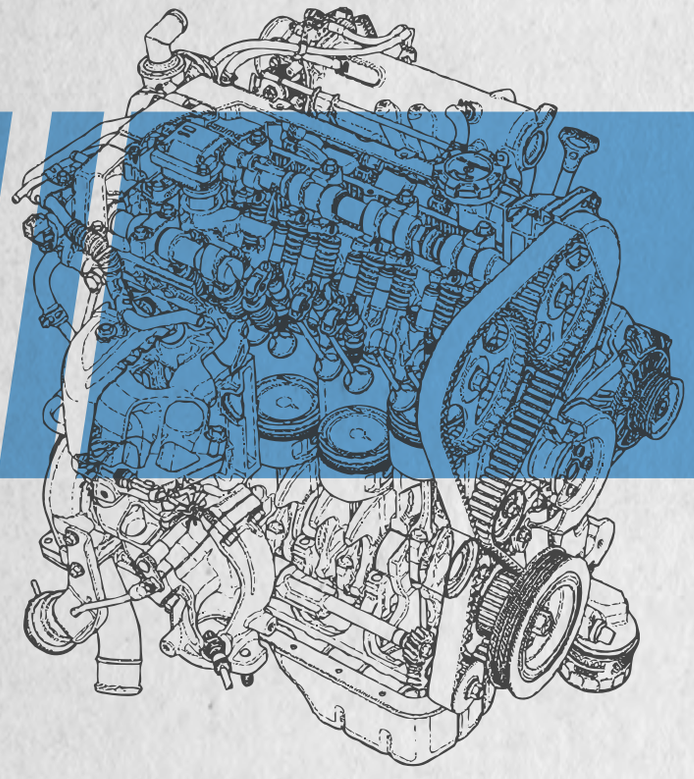
INTEL® XEON® RACING

DRIVER'S MANUAL

TURBOCHARGED TRAINING FOR THE INTEL® XEON® PROCESSOR E5-2600



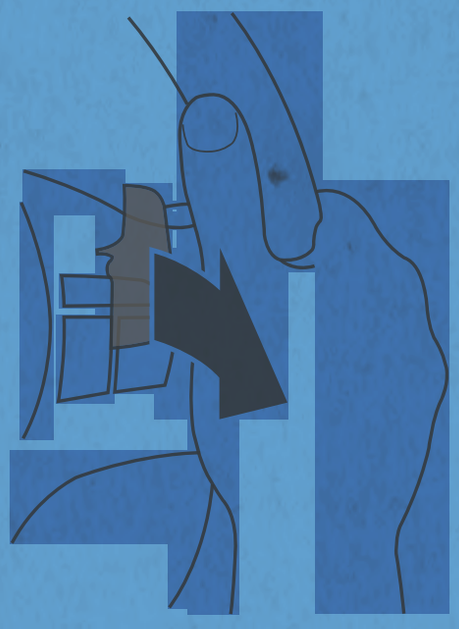
UP TO 80 PERCENT HIGHER PERFORMANCE[1]



The Intel® Xeon® processor E5-2600 product family delivers up to 80 percent higher performance than its predecessors. They provide more cores, cache, and memory capacity, along with bigger, faster communication pathways to move data more quickly. **More Info**

Intel product brief, "The Intelligent Choice for Evolving Data Centers" 1011/KW/HBD/PDF 326036-001US

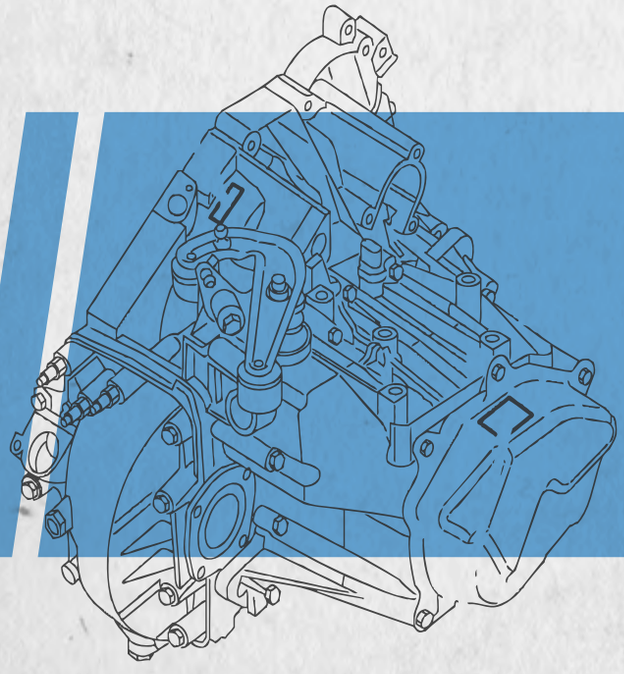
UP TO 2X HIGHER BANDWIDTH



The Intel® Xeon® processor E5-2600 product family is the first to have the I/O subsystem integrated on the processor die, reducing latency by up to 30 percent,[2] with up to 80 PCIe lanes per two-socket server, plus support for PCIe 3.0, improving bandwidth by as much as 2x.

More Info

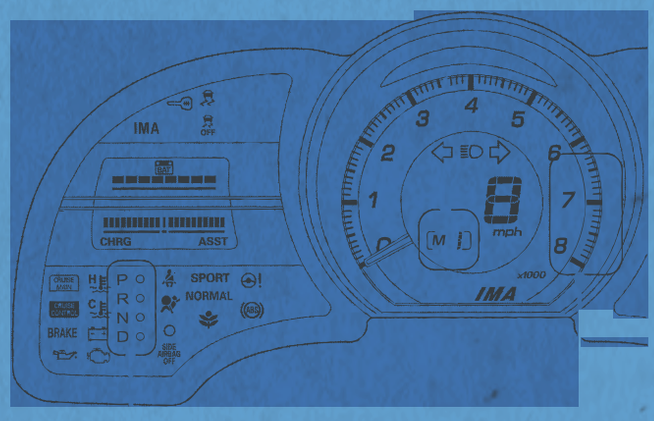
HIGHER PERFORMANCE FOR HPC & FLOATING POINT APPLICATIONS



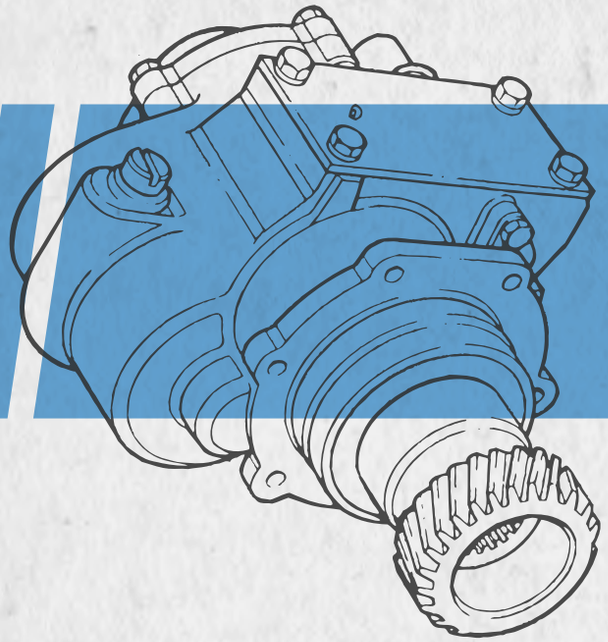
Intel® Advanced Vector Extensions (Intel® AVX) accelerates vector and floating point computations by increasing maximum vector size from 128 to 256 bits. AVX provides up to 2x performance boost for floating point operations,[3] which can significantly increase performance for high performance computing (HPC) applications. **More Info**

THE SHOWCASE BOARD FOR HIGH-PERFORMANCE COMPUTING

The Intel® Server Board S2600GZ offers a premium computing platform for high-performance computing environments, datacenters and the cloud, and accommodates dual processors in the Intel® Xeon® processor E5-2600 product family, as well as 24 LR/U/R-DIMMs at up to 1333Mhz.
More Info

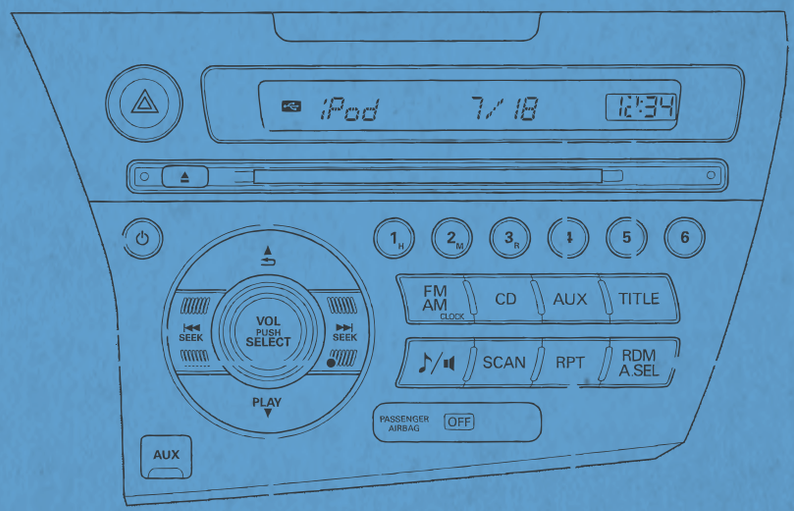


THE BOARD FOR SCALABLE PERFORMANCE IN THE ENTERPRISE



The Intel® Server Board S2600GZ is built for maximum memory capacity, offering rack-optimized performance and extensive I/O flexibility with the Intel® I/O Expansion Module. **More Info**

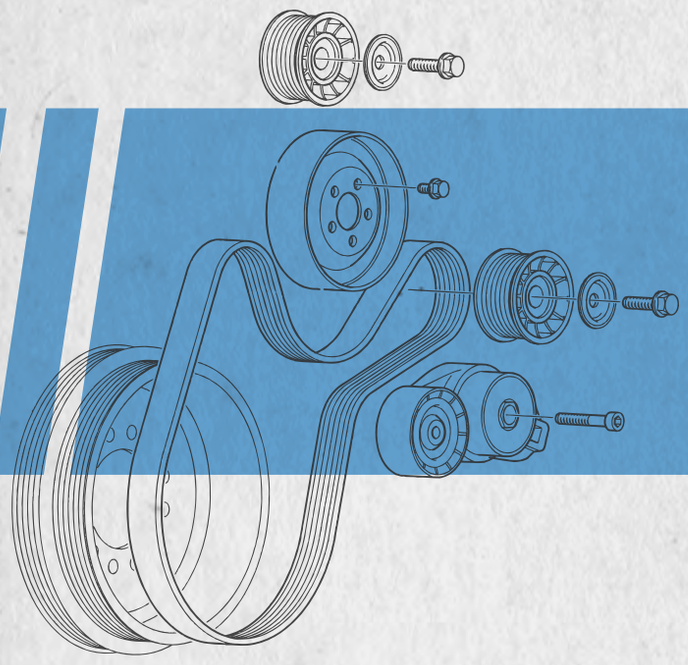
OPTIMIZED FOR STORAGE SOLUTIONS



For storage applications in the enterprise, the Intel® Server Board S2600SI offers maximum I/O support and expandability in a two-socket E5-2600 rack, supporting dual processors in the Intel® Xeon® processor E5-2600 product family for demanding compute environments.

More Info

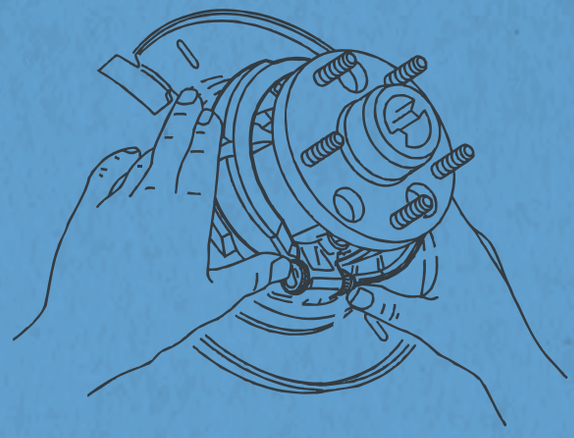
A HALF-WIDTH BOARD OPTIMIZED FOR MEMORY THROUGHPUT



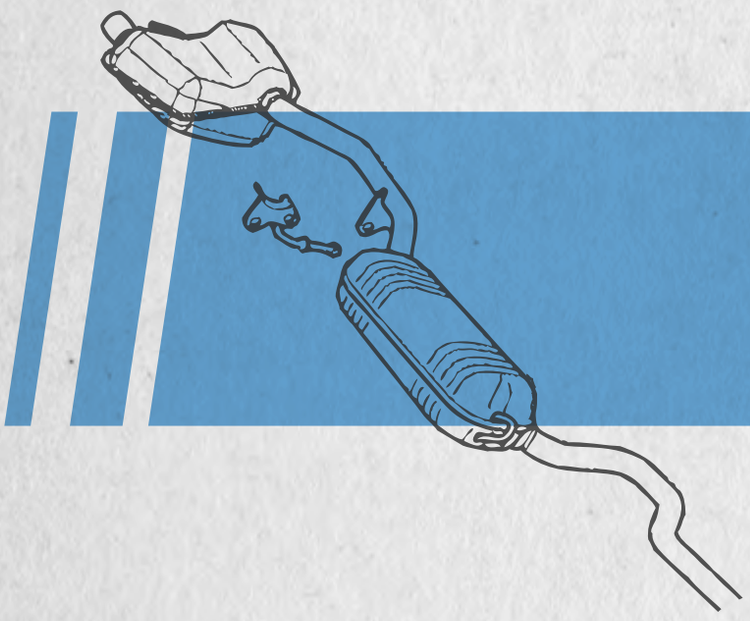
For high-performance solutions where density and cost are factors, the Intel® Server Board S2600JF offers performance 8-channel memory at 1,600 MHz for maximum memory bandwidth in a half-board form factor. **More Info**

MAINSTREAM PERFORMANCE FOR SMB ENVIRONMENTS

The Intel® Server Board S2600CP supports dual processors in the Intel® Xeon® processor E5-2600 product family and offers massive 16 LRDIMM support with 8 channel memory for mainstream performance, storage capacity and I/O flexibility. **More Info**

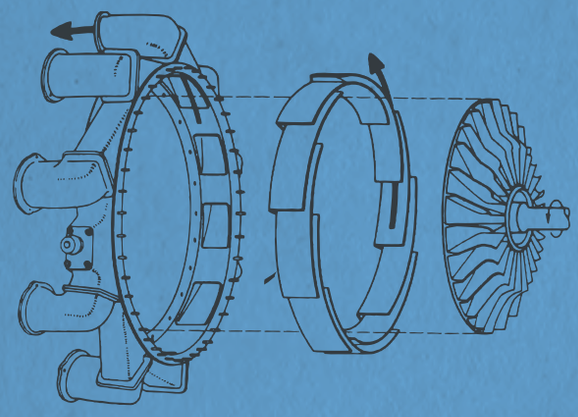


PERFORMANCE, I/O CAPACITY, HD AUDIO



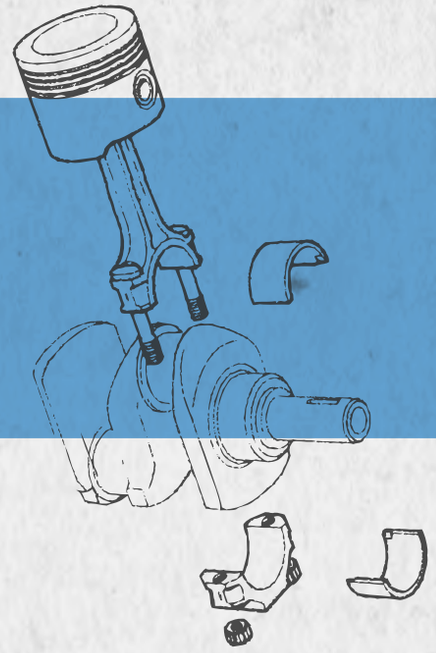
In addition to the workstation performance and massive memory throughput found in other server boards, the Intel® Server Board W2600CR offers HD audio supporting Dolby 7.1. **More Info**

FEATURES OF THE INTEL® SERVER BOARD S2600CP FAMILY



Both boards in the Intel® Server Board S2600CP product family include an SSI EEB (12" x 13") form factor, 8 SCU SATA/SAS ports, and 16 DDR3/DDR3L DIMM slots. Choose from dual 1GbE LOM support in the S2600CP2, or quad 1GbE LOM support in the S2600CP4. **More Info**

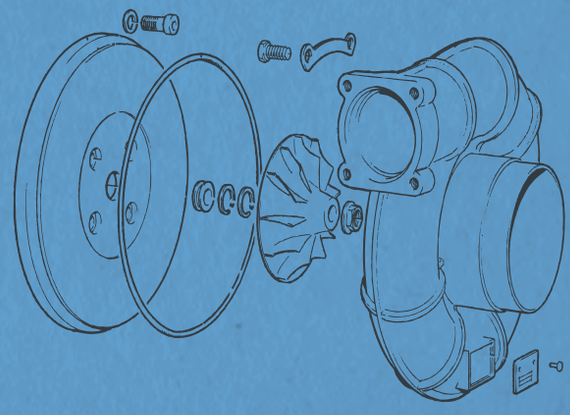
VIRTUALIZATION FEATURES OF THE INTEL® ETHERNET X520 SERVER ADAPTER



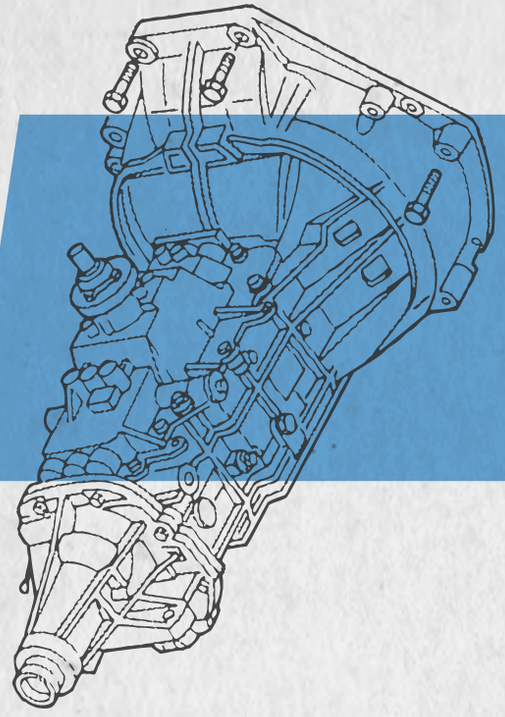
Advanced packet filtering conserves processor usage
PC-SIG SR-IOV implementation for near-native performance
Virtual Machine Load Balancing (VMLB) provides traffic load balancing across virtual machines **More Info**

DESIGNED FOR MULTI-CORE PROCESSORS

Support for technologies such as multiple queues, receive-side scaling, multiple MSI-X vectors, and Low Latency Interrupts allow Intel® Ethernet X520 server adapters to provide high-performance, 10 Gigabit connectivity in multi-core server blades. These technologies distribute network processing across multiple CPU cores, improving overall performance.
More Info

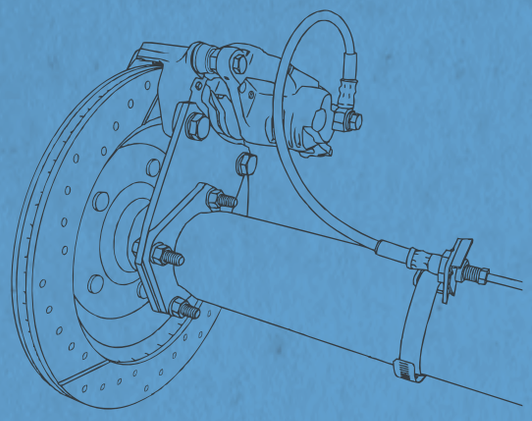


HIGHER PERFORMANCE FOR PEAK WORKLOADS



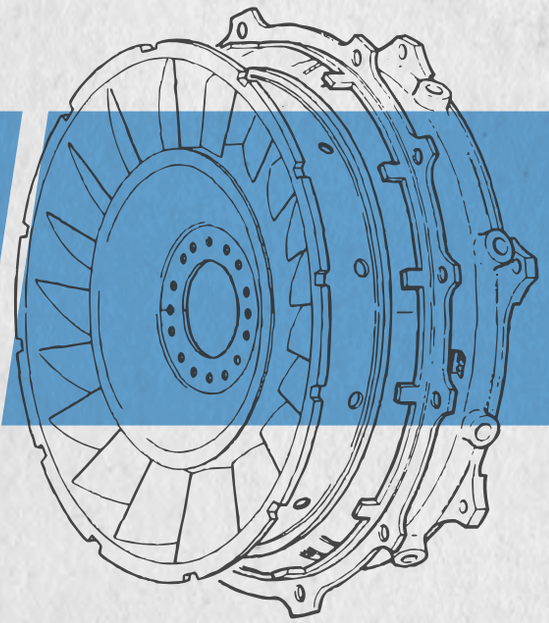
Intel® Turbo Boost Technology 2.0 takes advantage of power and thermal headroom to increase processor frequencies for peak workloads.[4] It provides more and higher performance boosts and improved efficiency versus the previous generation. **More Info**

PUTTING DATA RIGHT WHERE YOU NEED IT — FAST



Intel® Data Direct I/O Technology enables direct data transfers from storage to cache. It increases I/O performance by up to 2.3 times[5] and reduces the need for performance-sapping memory accesses. Data flows faster to keep processor cores more productive and your applications more responsive. **More Info**

DELIVERING ON THE PROMISE OF UNIFIED NETWORKING



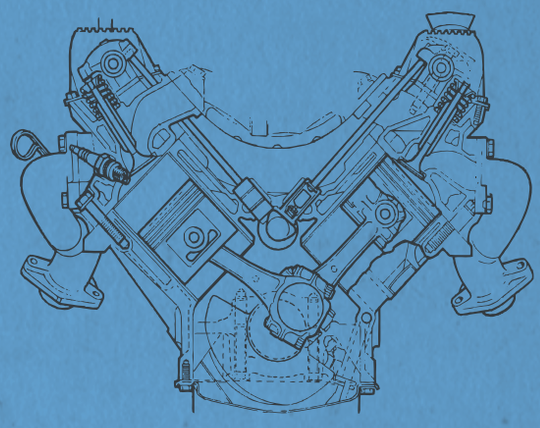
The Intel® Ethernet X520 Converged Network Adapter does it all: Merge LAN, iSCSI and NFS, as well as Fiber Channel over your common Ethernet fabric to take full advantage of a 10 GbE unified network. **More Info**

YOUR BEST CHOICE: INTEL® INTEGRATED SERVER RAID

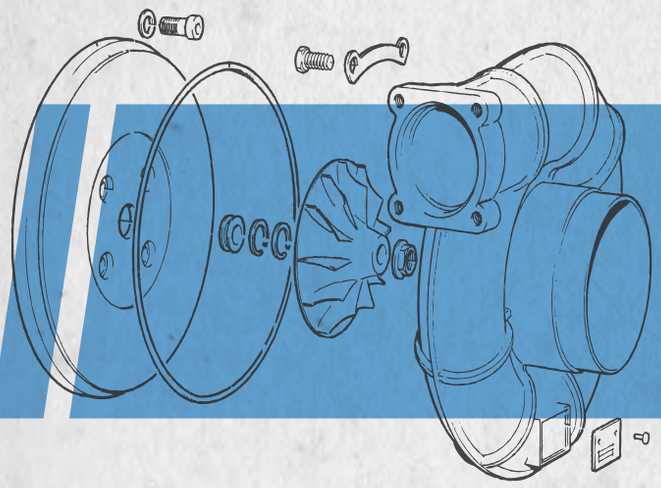
These unique system boards add value over standard add-in cards. Intel® Integrated Server RAID...

- **In many cases,** eliminates the need for an add-in card, a particularly useful factor in 1U and 2U systems
- **Is optimized** for Intel server boards and Intel server systems
- **Offers flexible options** from basic to advanced RAID and is encompassed by Intel's optional 5 year warranty program

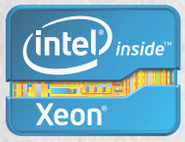
More Info

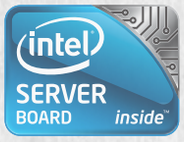


PERFORMANCE 16X DIMM SUPPORT FOR MASSIVE MEMORY FOOTPRINT



For high-performance, high-density solutions where density and cost are factors, the Intel® Server Board S2600WP offers 8 channels of 16x LR/U/RDIMM on a 6.8" x 18.9" board. **More Info**





[1] Source: Performance comparison using SPECfp*_rate_base2006 benchmark. Baseline score of 267 on prior generation 2S Intel® Xeon® processor X5690 (3.46 GHz, 6 core, 12MB L3, 6.4 GT/s, 130W) based platform is based on best published score to www.spec.org as of 6 September 2011. For more details, see: http://www.spec.org/cpu2006/results/res2011q1/cpu2006-20110131-14172.html. New score of 486 on 2S Intel® Xeon® processor E5-2690 (2.90 GHz, 8 core, 20MB L3, 8.0 GT/s, 135W) based platform is based on Intel internal measured estimates as of 6 September 2011 using an Intel® Rose City platform with two Intel® Xeon® processor E5-2690, Turbo Enabled, EIST Enabled, Hyper-Threading Enabled, 64 GB memory (8 x 8GB DDR3-1600), Red Hat* Enterprise Linux Server 6.1 beta for x86_6, Intel® Compiler 12.1.

[2] Source: The claim of up to 30% reduction in I/O latency is based on Intel internal measurements of the average time for an I/O device read to local system memory under idle conditions for the Intel® Xeon® processor E5-2600 product family versus the Intel® Xeon® processor 5600 series.

[3] Source: The Intel® Xeon® processor E5 product family supports Intel® Advanced Vector Extensions (Intel® AVX), which increases maximum vector size from 128 to 256 bits, so up to twice the work can be accomplished per clock cycle during floating point and vector operations versus the Intel® Xeon® processor 5600 series.

[4] Intel® Turbo Boost Technology requires a platform with a processor with Intel Turbo Boost Technology capability. Intel Turbo Boost Technology performance varies depending on hardware, software and overall system configuration. Check with your platform manufacturer on whether your system delivers Intel Turbo Boost Technology. For more information, see http://www.intel.com/technology/turboboost.

[5] Source: The claim of up to 2.3x I/O performance is based on Intel internal measurements comparing 1-socket SNB data for an L2 forwarding test using 8x10 GbE ports for the Intel® Xeon® processor E5 product family versus the Intel® Xeon® processor 5600 series.

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