



# SPEC® CINT2006 Result

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## Sun Microsystems

**SPECint®2006 = 20.3**

Sun Netra X4250 (Intel Xeon L5408 2.13GHz)

**SPECint\_base2006 = 17.9**

CPU2006 license: 6

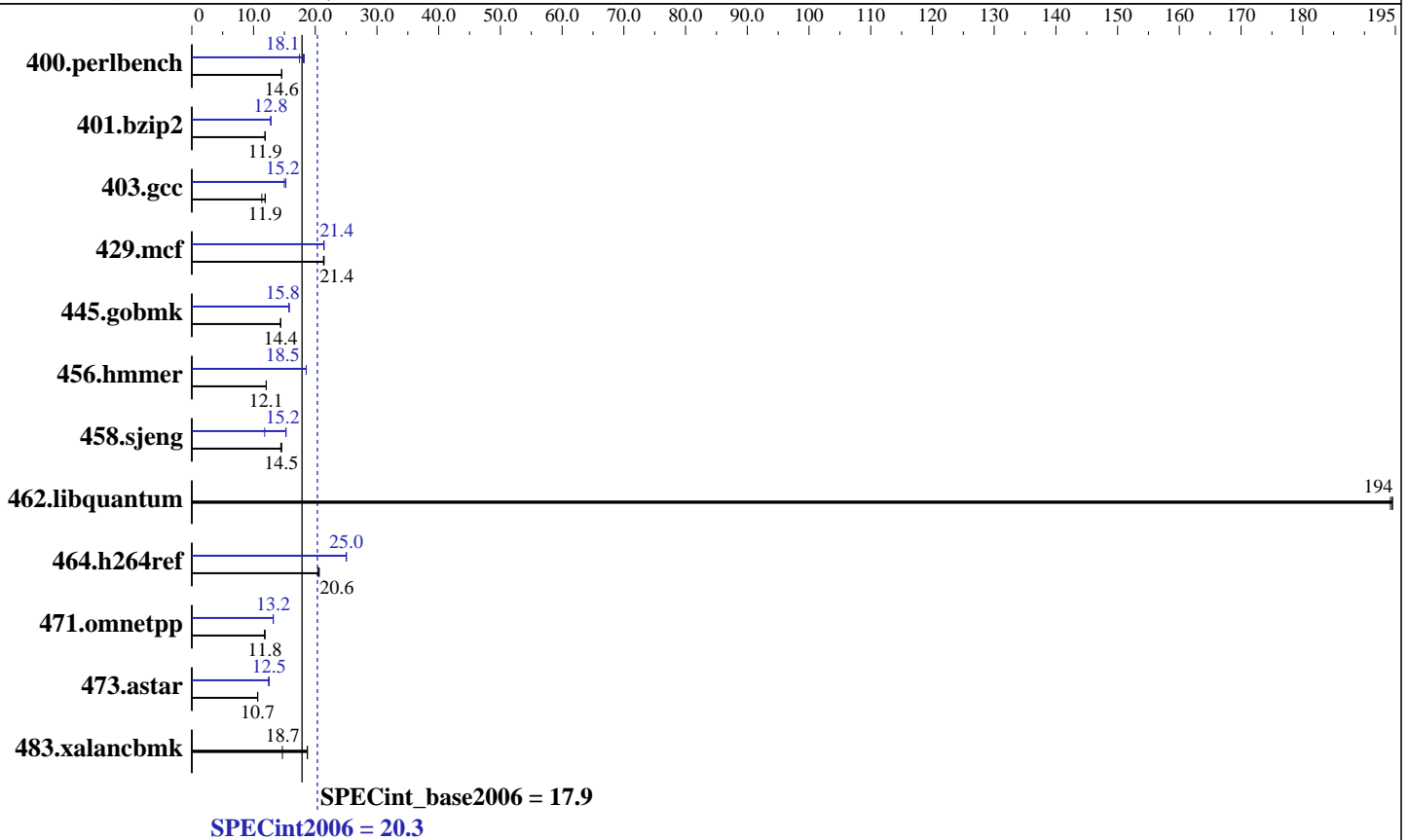
Test sponsor: Sun Microsystems

Tested by: Sun Microsystems

Test date: Aug-2008

Hardware Availability: Aug-2008

Software Availability: Nov-2008



### Hardware

CPU Name: Intel Xeon L5408  
 CPU Characteristics:  
 CPU MHz: 2133  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 2,4 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 64 GB (16x4 GB PC2-5300F, 2 rank, CL5-5-5, ECC)  
 Disk Subsystem: SAS, 146GB, 10K RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP1, Kernel 2.6.16.46-0.12-smp  
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20080730 Package ID: l\_cproc\_b\_11.0.042  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Multi-user, run level 3  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Binutils 2.18.50.0.7.20080502  
 Microquill SmartHeap V8.1



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	670	14.6	<b>670</b>	<b>14.6</b>	673	14.5	536	18.2	560	17.4	<b>541</b>	<b>18.1</b>
401.bzip2	814	11.9	811	11.9	<b>812</b>	<b>11.9</b>	<b>754</b>	<b>12.8</b>	754	12.8	754	12.8
403.gcc	677	11.9	710	11.3	<b>677</b>	<b>11.9</b>	537	15.0	<b>529</b>	<b>15.2</b>	528	15.2
429.mcf	428	21.3	426	21.4	<b>426</b>	<b>21.4</b>	426	21.4	427	21.4	<b>426</b>	<b>21.4</b>
445.gobmk	728	14.4	729	14.4	<b>729</b>	<b>14.4</b>	666	15.8	666	15.8	<b>666</b>	<b>15.8</b>
456.hmmer	773	12.1	<b>774</b>	<b>12.1</b>	774	12.1	<b>503</b>	<b>18.5</b>	503	18.5	503	18.5
458.sjeng	832	14.5	839	14.4	<b>832</b>	<b>14.5</b>	1026	11.8	<b>795</b>	<b>15.2</b>	792	15.3
462.libquantum	<b>107</b>	<b>194</b>	107	194	107	195	<b>107</b>	<b>194</b>	107	194	107	195
464.h264ref	1084	20.4	<b>1073</b>	<b>20.6</b>	1073	20.6	<b>885</b>	<b>25.0</b>	885	25.0	883	25.1
471.omnetpp	<b>529</b>	<b>11.8</b>	529	11.8	527	11.9	474	13.2	<b>474</b>	<b>13.2</b>	474	13.2
473.astar	659	10.7	<b>658</b>	<b>10.7</b>	658	10.7	560	12.5	<b>560</b>	<b>12.5</b>	565	12.4
483.xalancbmk	368	18.7	<b>369</b>	<b>18.7</b>	470	14.7	368	18.7	<b>369</b>	<b>18.7</b>	470	14.7

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited  
OMP\_NUM\_THREADS set to number of cores.  
KMP\_AFFINITY set to physical,0

## Platform Notes

BIOS configuration:  
Hardware Prefetch = Enable; Adjacent Sector Prefetch = Enable

## General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer, for peak, are compiled in 64-bit mode

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc



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## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel  
-par-runtime-control -opt-prefetch

C++ benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/spec/cpu2006.1.1/lib -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc

401.bzip2: /opt/intel/Compiler/11.0/042/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

456.hmmer: /opt/intel/Compiler/11.0/042/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

C++ benchmarks:

icpc

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64

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## Peak Portability Flags (Continued)

462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -ansi-alias -opt-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -auto-ilp32 -opt-prefetch  
-ansi-alias

403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-alloc  
-opt-malloc-options=3

429.mcf: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -O2 -ipo  
-no-prec-div -ansi-alias

456.hmmer: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2  
-ansi-alias -auto-ilp32

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll4

462.libquantum: basepeak = yes

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -ansi-alias -opt-ra-region-strategy=block  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

483.xalancbmk: basepeak = yes



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## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.07.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.07.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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