



# SPEC® CINT2006 Result

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## SGI

SGI Altix XE 210 (Intel Xeon Processor 5160, 3.0 GHz)

SPECint®\_rate2006 = 67.4

SPECint\_rate\_base2006 = 59.3

CPU2006 license: 4

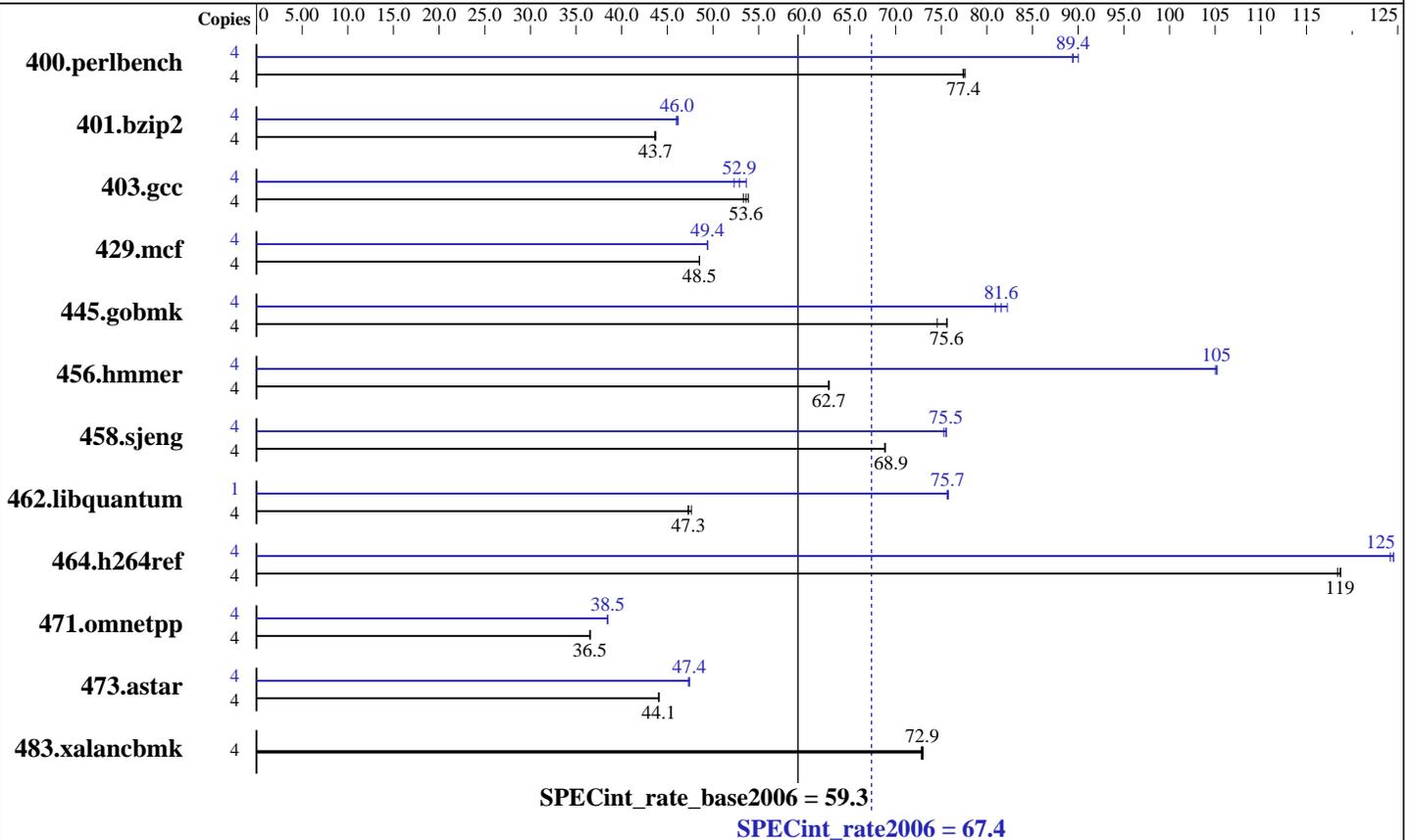
Test sponsor: SGI

Tested by: SGI

Test date: Sep-2007

Hardware Availability: Aug-2006

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon 5160  
 CPU Characteristics: Dual Core, 3.0 GHz  
 CPU MHz: 2992  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 4 MB I+D on chip per chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 8 GB (8\*1GB PC2-5300 FB-DIMMs)  
 Disk Subsystem: 876 GB RAID 0  
 12 x 73 GB SAS (Seagate Cheetah 15000 rpm)  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 10  
 Kernel 2.6.16.21-0.8-smp  
 Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64, Version 10.1, Build 20070824  
 Auto Parallel: Yes  
 File System: NFSv3  
 System State: Multi-user, run level 3  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: SGI ProPack 5 for Linux  
 MicroQuill SmartHeap Library 8  
 Binutils 2.17



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## Results Table

Benchmark	Base						Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	<b>505</b>	<b>77.4</b>	505	77.4	503	77.6	4	<b>437</b>	<b>89.4</b>	434	90.0	437	89.4
401.bzip2	4	882	43.7	<b>883</b>	<b>43.7</b>	885	43.6	4	839	46.0	835	46.2	<b>838</b>	<b>46.0</b>
403.gcc	4	598	53.9	<b>601</b>	<b>53.6</b>	604	53.3	4	600	53.6	<b>609</b>	<b>52.9</b>	616	52.3
429.mcf	4	752	48.5	<b>752</b>	<b>48.5</b>	752	48.5	4	739	49.4	738	49.4	<b>738</b>	<b>49.4</b>
445.gobmk	4	555	75.6	563	74.5	<b>555</b>	<b>75.6</b>	4	<b>514</b>	<b>81.6</b>	519	80.9	510	82.2
456.hammer	4	<b>595</b>	<b>62.7</b>	596	62.6	595	62.7	4	355	105	<b>355</b>	<b>105</b>	355	105
458.sjeng	4	703	68.9	704	68.8	<b>703</b>	<b>68.9</b>	4	641	75.5	<b>641</b>	<b>75.5</b>	643	75.3
462.libquantum	4	<b>1752</b>	<b>47.3</b>	1752	47.3	1740	47.6	1	274	75.6	273	75.8	<b>274</b>	<b>75.7</b>
464.h264ref	4	745	119	748	118	<b>746</b>	<b>119</b>	4	713	124	711	125	<b>711</b>	<b>125</b>
471.omnetpp	4	685	36.5	<b>684</b>	<b>36.5</b>	683	36.6	4	<b>650</b>	<b>38.5</b>	650	38.4	650	38.5
473.astar	4	<b>637</b>	<b>44.1</b>	638	44.0	637	44.1	4	594	47.3	<b>592</b>	<b>47.4</b>	592	47.4
483.xalanbmk	4	378	73.0	<b>379</b>	<b>72.9</b>	379	72.8	4	378	73.0	<b>379</b>	<b>72.9</b>	379	72.8

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

## General Notes

BIOS settings:

Hardware Prefetcher: enabled

Adjacent Cacheline Prefetcher: enabled

462.libquantum (peak) compiled with automatic parallelization and run with OMP\_NUM\_THREADS = 4

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32

462.libquantum: -DSPEC\_CPU\_LINUX

483.xalanbmk: -DSPEC\_CPU\_LINUX



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## Base Optimization Flags

C benchmarks:

-fast -inline-calloc -opt-malloc-options=3

C++ benchmarks:

-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc

401.bzip2: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/include

456.hmmer: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/include

C++ benchmarks:

icpc

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32

401.bzip2: -DSPEC\_CPU\_LP64

456.hmmer: -DSPEC\_CPU\_LP64

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) -fast -ansi-alias  
-prefetch

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## Peak Optimization Flags (Continued)

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

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

456.hmmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll4 -Ob0 -prefetch  
-opt-streaming-stores always -vec-guard-write  
-opt-malloc-options=3 -parallel -par-runtime-control

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec-div -ansi-alias -opt-ra-region-strategy=block  
-Wl,-z,muldefs -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
-Wl,-z,muldefs -lsmartheap

483.xalancbmk: basepeak = yes

## 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-ic10-ia32-intel64-linux-flags.20090714.07.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.07.xml>



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

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