



# SPEC® CINT2006 Result

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## Acer Incorporated

SPECint®\_rate2006 = 67.8

## Acer Altos R920 (Intel Xeon E7310)

SPECint\_rate\_base2006 = 61.6

CPU2006 license: 97

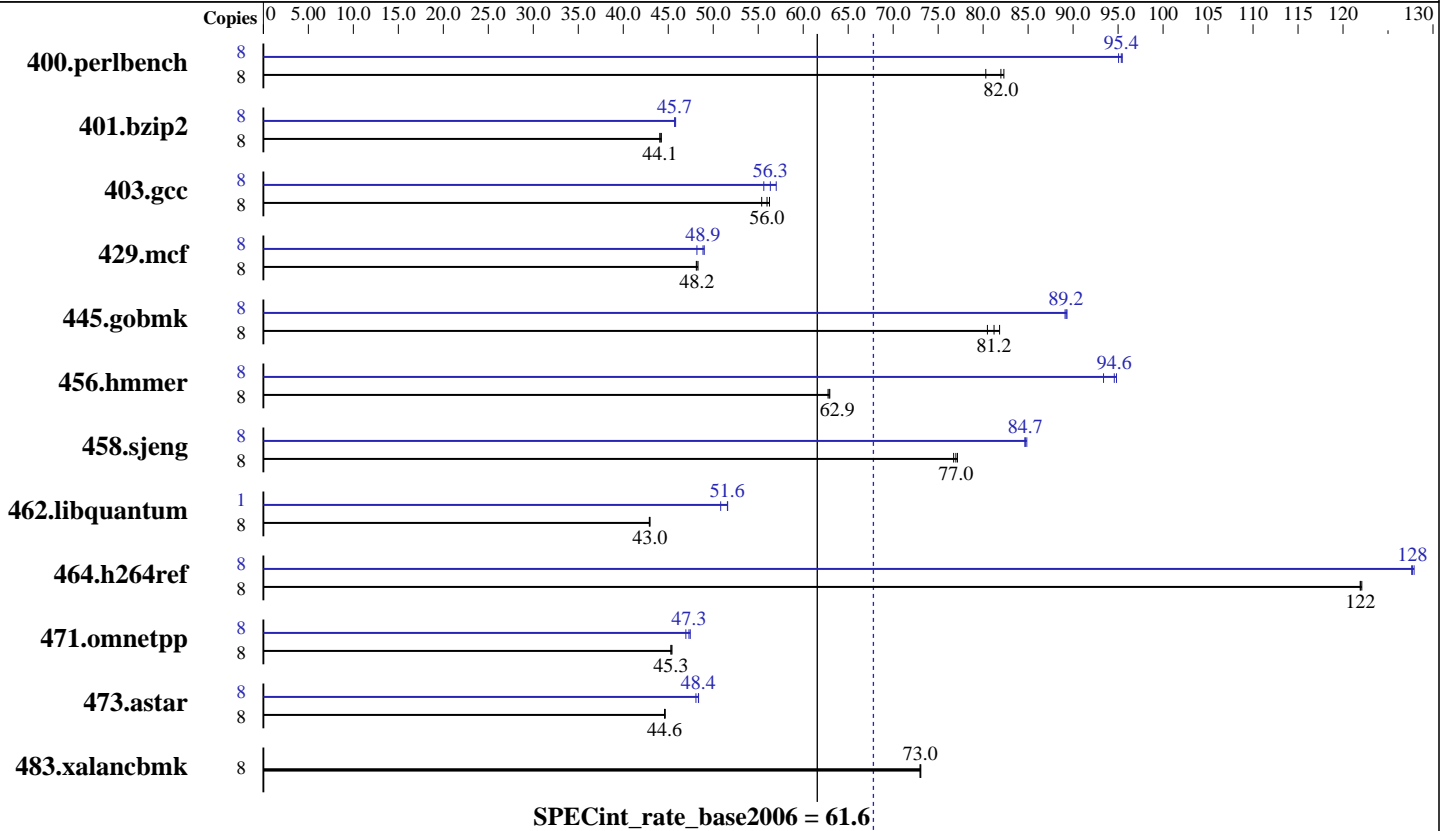
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Oct-2007

Hardware Availability: Nov-2007

Software Availability: Sep-2007



### Hardware

CPU Name: Intel Xeon E7310  
 CPU Characteristics: 1066MHz system bus  
 CPU MHz: 1600  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1, 2, 3, 4 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 4 MB I+D on chip per chip, 2 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16 GB (16 x 1048MB ECC FB-DIMM DDR2-667 CL5-5-5)  
 Disk Subsystem: 1 x 73GB 10000PRM SAS HDD  
 Other Hardware: None

### Software

Operating System: SuSE Linux Enterprise Server 10 SP1 (x86\_64)  
 Kernel 2.6.16.46-0.12-smp  
 Compiler: Intel C++ Compiler for Linux32 and Linux64 version 10.1  
 Build 20070725  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Multi-user, level 3  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: MicroQuill SmartHeap Library 8.1  
 Binutils 2.17.50.0.15



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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	8	973	80.3	<u>953</u>	<u>82.0</u>	950	82.3	8	822	95.1	<u>820</u>	<u>95.4</u>	819	95.5
401.bzip2	8	1752	44.1	<u>1751</u>	<u>44.1</u>	1745	44.2	8	1689	45.7	<u>1688</u>	<u>45.7</u>	1685	45.8
403.gcc	8	<u>1150</u>	<u>56.0</u>	1145	56.3	1163	55.4	8	1130	57.0	1158	55.6	<u>1143</u>	<u>56.3</u>
429.mcf	8	1510	48.3	1516	48.1	<u>1514</u>	<u>48.2</u>	8	1514	48.2	1489	49.0	<u>1493</u>	<u>48.9</u>
445.gobmk	8	1026	81.8	1043	80.5	<u>1033</u>	<u>81.2</u>	8	942	89.1	<u>941</u>	<u>89.2</u>	940	89.3
456.hammer	8	<u>1187</u>	<u>62.9</u>	1186	63.0	1189	62.8	8	799	93.4	<u>789</u>	<u>94.6</u>	787	94.8
458.sjeng	8	1262	76.7	1255	77.1	<u>1258</u>	<u>77.0</u>	8	<u>1143</u>	<u>84.7</u>	1144	84.6	1141	84.9
462.libquantum	8	3859	43.0	<u>3859</u>	<u>43.0</u>	3865	42.9	1	408	50.8	<u>402</u>	<u>51.6</u>	402	51.6
464.h264ref	8	1450	122	1452	122	<u>1452</u>	<u>122</u>	8	1384	128	1387	128	<u>1386</u>	<u>128</u>
471.omnetpp	8	1101	45.4	1104	45.3	<u>1103</u>	<u>45.3</u>	8	1065	47.0	<u>1057</u>	<u>47.3</u>	1054	47.4
473.astar	8	1259	44.6	<u>1259</u>	<u>44.6</u>	1257	44.7	8	1168	48.1	1161	48.4	<u>1161</u>	<u>48.4</u>
483.xalancbmk	8	756	73.0	<u>756</u>	<u>73.0</u>	755	73.1	8	756	73.0	<u>756</u>	<u>73.0</u>	755	73.1

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

## General Notes

### BIOS Settings

Hardware Prefetcher set to OFF

Adjacent Cache Line Prefetch set to OFF

All results but peak 462.libquantum used taskset to bind processes to cores.

"ulimit -s unlimited" was set for stacksize unlimited

OMP\_NUM\_THREADS set to number of cores

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

## Base Portability Flags

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

462.libquantum: -DSPEC\_CPU\_LINUX

483.xalancbmk: -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  
-L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -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:

Continued on next page



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## Peak Optimization Flags (Continued)

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias  
-prefetch

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.hmmer: -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  
-L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -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  
-L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -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-ic10.1-INT-ia32-linux-flags.20090713.00.html>



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

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-INT-ia32-linux-flags.20090713.00.xml>

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

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