



# SPEC<sup>®</sup> CINT2006 Result

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## Acer Incorporated

## SPECint<sup>®</sup>\_rate2006 = 71.5

## Acer Altos R520 (Intel Xeon X5460)

## SPECint\_rate\_base2006 = 60.7

CPU2006 license: 97

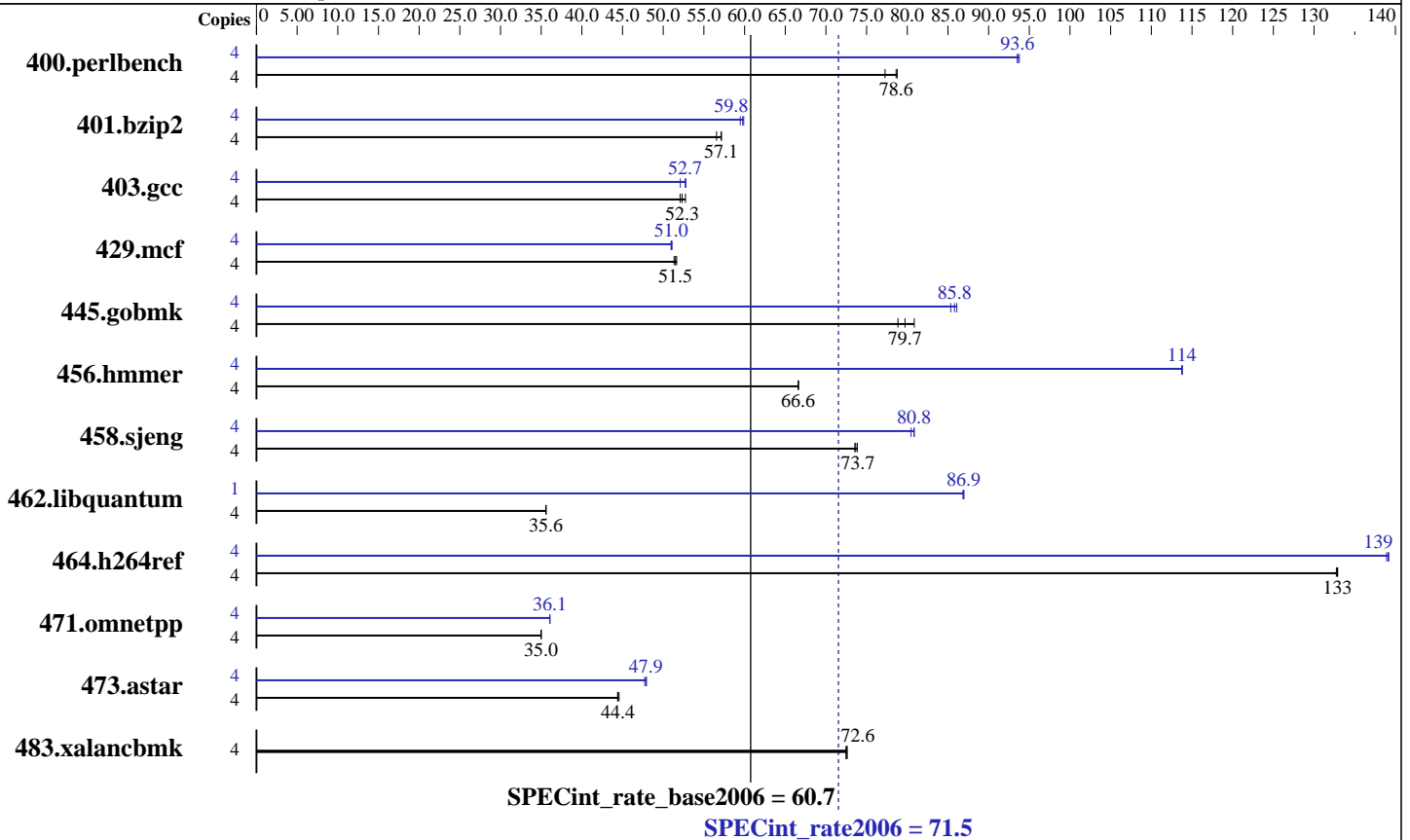
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Mar-2008

Hardware Availability: Nov-2007

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon X5460  
 CPU Characteristics: 1333MHz system bus  
 CPU MHz: 3160  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1, 2 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: 16 GB (8 x 2048MB ECC FB-DIMM DDR2-667 CL5-5-5)  
 Disk Subsystem: 1 x 73GB 10K RPM 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 10.1 for Linux  
 Build 20070913 Package ID: l\_cc\_p\_10.1.008  
 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 V8.1  
 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	4	506	77.3	496	78.8	<b>497</b>	<b>78.6</b>	4	417	93.8	<b>418</b>	<b>93.6</b>	418	93.5
401.bzip2	4	<b>676</b>	<b>57.1</b>	675	57.2	683	56.6	4	649	59.5	<b>646</b>	<b>59.8</b>	644	59.9
403.gcc	4	<b>615</b>	<b>52.3</b>	618	52.1	611	52.7	4	<b>611</b>	<b>52.7</b>	610	52.8	618	52.1
429.mcf	4	706	51.7	711	51.3	<b>708</b>	<b>51.5</b>	4	<b>715</b>	<b>51.0</b>	716	51.0	714	51.1
445.gobmk	4	519	80.9	532	78.9	<b>526</b>	<b>79.7</b>	4	492	85.3	<b>489</b>	<b>85.8</b>	487	86.1
456.hmmer	4	<b>560</b>	<b>66.6</b>	560	66.6	560	66.6	4	<b>328</b>	<b>114</b>	328	114	328	114
458.sjeng	4	655	73.9	658	73.5	<b>657</b>	<b>73.7</b>	4	601	80.5	<b>599</b>	<b>80.8</b>	599	80.9
462.libquantum	4	2331	35.6	2327	35.6	<b>2330</b>	<b>35.6</b>	1	238	87.0	239	86.8	<b>238</b>	<b>86.9</b>
464.h264ref	4	667	133	666	133	<b>666</b>	<b>133</b>	4	<b>636</b>	<b>139</b>	636	139	637	139
471.omnetpp	4	<b>715</b>	<b>35.0</b>	715	35.0	714	35.0	4	693	36.1	693	36.1	<b>693</b>	<b>36.1</b>
473.astar	4	633	44.4	<b>632</b>	<b>44.4</b>	630	44.6	4	<b>587</b>	<b>47.9</b>	586	47.9	588	47.7
483.xalancbmk	4	381	72.5	<b>380</b>	<b>72.6</b>	380	72.6	4	381	72.5	<b>380</b>	<b>72.6</b>	380	72.6

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

## General Notes

This result was measured on the Acer Altos R520.  
The Altos R720 and Altos R520 are electronically equivalent.

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

BIOS Settings

Hardware Prefetcher set to ON

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



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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:

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

C++ benchmarks:

-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs  
-L/spec/users/rahul/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: /opt/intel/cce/10.1.008/bin/icc  
-L/opt/intel/cce/10.1.008/lib  
-I/opt/intel/cce/10.1.008/include

456.hmmer: /opt/intel/cce/10.1.008/bin/icc  
-L/opt/intel/cce/10.1.008/lib  
-I/opt/intel/cce/10.1.008/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

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## Peak Portability Flags (Continued)

483.xalanbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

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/spec/users/rahul/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/spec/users/rahul/cpu2006.1.0/lib -lsmartheap

483.xalanbmk: 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-ic10.1-int-linux64-revC.20090713.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-int-linux64-revC.20090713.xml>

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

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