



# SPEC® CINT2006 Result

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Acer Incorporated

**SPECint®\_rate2006 = 146**

Acer Altos R520 (Intel Xeon X5470)

**SPECint\_rate\_base2006 = 133**

CPU2006 license: 97

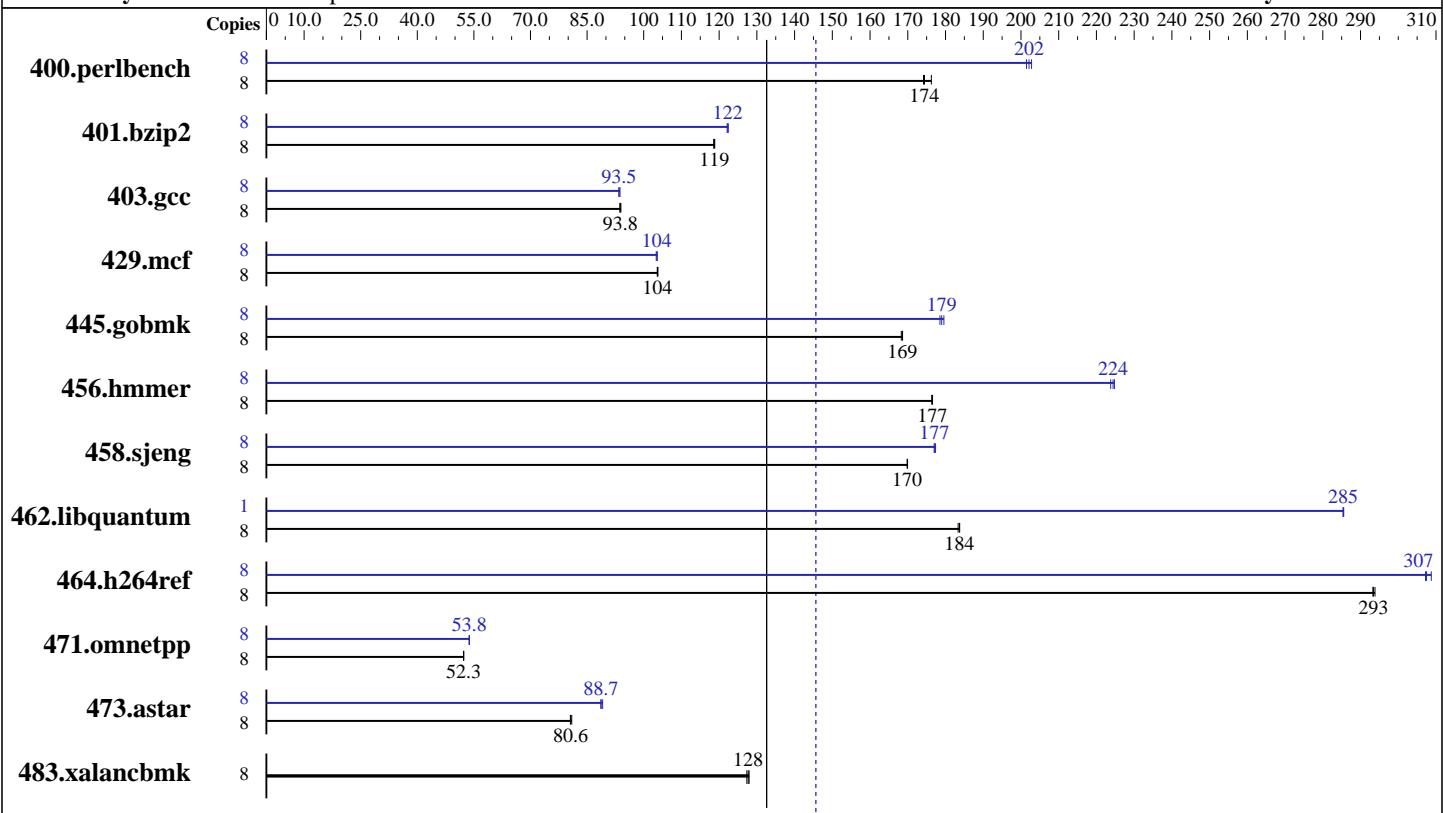
Test date: Dec-2008

Test sponsor: Acer Incorporated

Hardware Availability: Sep-2008

Tested by: Acer Incorporated

Software Availability: Nov-2008



## Hardware

CPU Name: Intel Xeon X5470  
 CPU Characteristics: 1333MHz system bus  
 CPU MHz: 3333  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 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 (x86\_64) SP1, Kernel 2.6.16.46-0.12-smp  
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20080930 Package ID: l\_cproc\_p\_11.0.066  
 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 2.18.50.0.7.20080502



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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	443	176	449	174	<b>448</b>	<b>174</b>	8	385	203	<b>387</b>	<b>202</b>	388	201
401.bzip2	8	<b>650</b>	<b>119</b>	650	119	651	119	8	<b>631</b>	<b>122</b>	632	122	631	122
403.gcc	8	<b>687</b>	<b>93.8</b>	687	93.7	685	94.0	8	687	93.7	<b>689</b>	<b>93.5</b>	689	93.4
429.mcf	8	703	104	704	104	<b>704</b>	<b>104</b>	8	<b>705</b>	<b>104</b>	704	104	706	103
445.gobmk	8	<b>498</b>	<b>169</b>	499	168	498	169	8	470	179	467	180	<b>469</b>	<b>179</b>
456.hmmer	8	423	176	<b>423</b>	<b>177</b>	423	177	8	334	224	332	225	<b>333</b>	<b>224</b>
458.sjeng	8	570	170	<b>570</b>	<b>170</b>	570	170	8	546	177	<b>547</b>	<b>177</b>	547	177
462.libquantum	8	<b>902</b>	<b>184</b>	904	183	902	184	1	72.6	286	72.6	285	<b>72.6</b>	<b>285</b>
464.h264ref	8	<b>603</b>	<b>293</b>	603	294	604	293	8	573	309	576	307	<b>576</b>	<b>307</b>
471.omnetpp	8	957	52.2	956	52.3	<b>956</b>	<b>52.3</b>	8	930	53.8	929	53.8	<b>930</b>	<b>53.8</b>
473.astar	8	697	80.6	694	80.9	<b>696</b>	<b>80.6</b>	8	630	89.1	<b>633</b>	<b>88.7</b>	633	88.7
483.xalancbmk	8	431	128	<b>432</b>	<b>128</b>	433	127	8	431	128	<b>432</b>	<b>128</b>	433	127

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

## Submit Notes

The config file option 'submit' was used.

## Platform Notes

### BIOS Settings

Adjacent Cache Line Prefetch disabled  
Hardware Prefetch Enabled

## General Notes

taskset was used to bind processes to cores except for 462.libquantum peak  
OMP\_NUM\_THREADS set to number of processors  
KMP\_AFFINITY set to "physical,0"  
KMP\_STACKSIZE set to 64M  
'ulimit -s unlimited' was set for stacksize unlimited  
This result was measured on the Acer Altos R520.  
The Altos R720 and Altos R520 are electronically equivalent.

## Base Compiler Invocation

C benchmarks:  
icc

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## Base Compiler Invocation (Continued)

C++ benchmarks:

`icpc`

## 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 -inline-calloc  
-opt-malloc-options=3 -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/11.0/066/bin/intel64/icc`

456.hmmr: `/opt/intel/Compiler/11.0/066/bin/intel64/icc`

C++ benchmarks:

`icpc`



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## Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
 401.bzip2: -DSPEC_CPU_LP64
 456.hmmmer: -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) -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 -opt-prefetch -ansi-alias

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

429.mcf: -prof-gen(pass 1) -prof-use(pass 2) -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.hmmmer: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll12
               -ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
               -no-prec-div -static -unroll14

462.libquantum: -xSSE4.1 -ipo -O3 -no-prec-div -static
                  -opt-malloc-options=3 -parallel -par-runtime-control
                  -opt-prefetch

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
               -no-prec-div -static -unroll12 -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
```

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## Peak Optimization Flags (Continued)

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_\_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.04.html>  
<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090710.00.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.04.xml>  
<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090710.00.xml>

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

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