



# SPEC® CINT2006 Result

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## Acer Incorporated

## SPECint®\_rate2006 = 143

## Acer Altos R920 (Intel Xeon E7320)

## SPECint\_rate\_base2006 = 131

CPU2006 license: 97

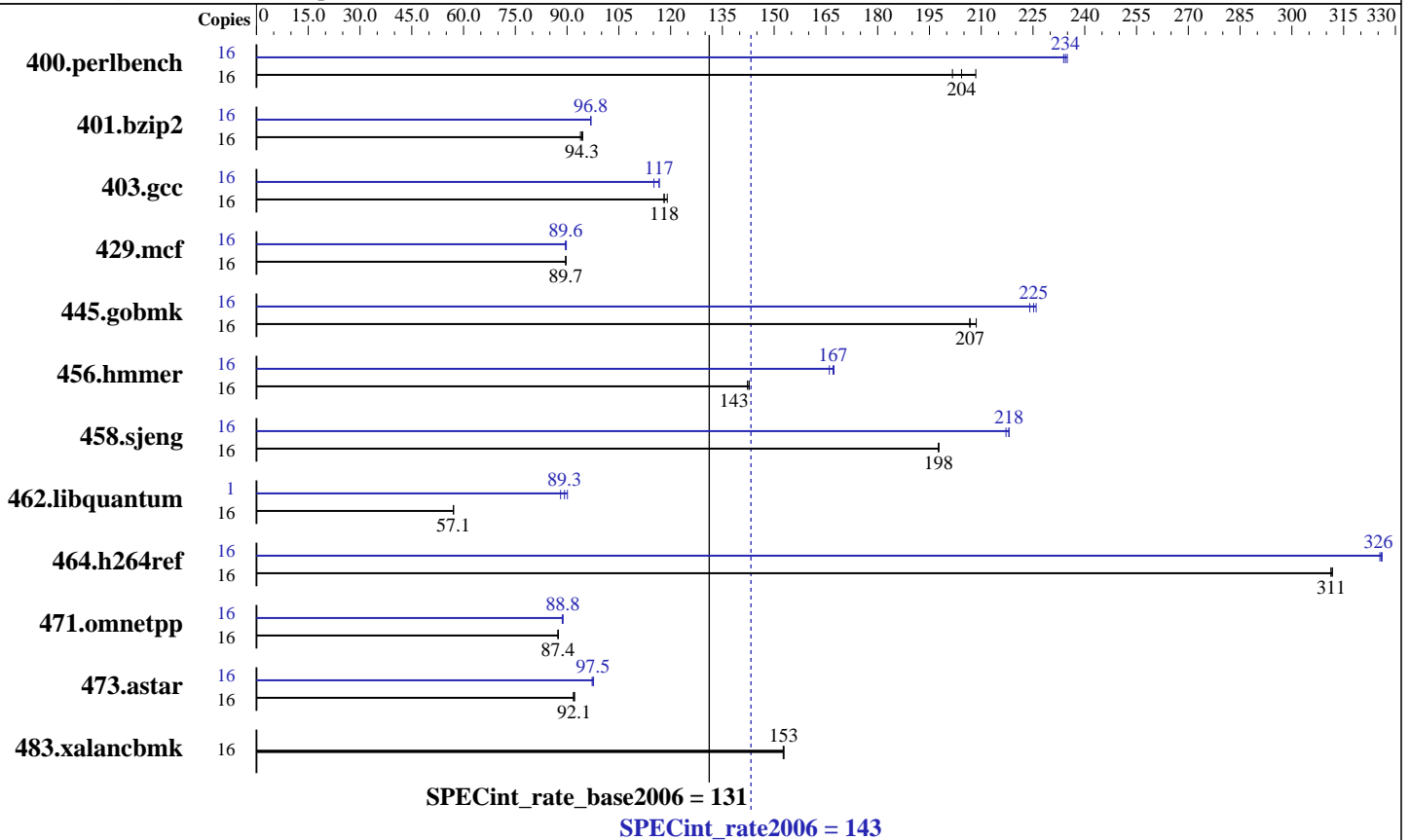
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Oct-2007

Hardware Availability: Nov-2007

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E7320  
 CPU Characteristics: 1066MHz system bus  
 CPU MHz: 2130  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 4 chips, 4 cores/chip  
 CPU(s) orderable: 1, 2, 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 EM64T (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



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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  | 16     | 750                | 208                | <b><u>765</u></b>  | <b><u>204</u></b>  | 775                | 202                | 16     | 665                | 235                | 668                | 234                | <b><u>667</u></b>  | <b><u>234</u></b>  |
| 401.bzip2      | 16     | 1645               | 93.9               | <b><u>1638</u></b> | <b><u>94.3</u></b> | 1633               | 94.5               | 16     | 1593               | 96.9               | <b><u>1594</u></b> | <b><u>96.8</u></b> | 1595               | 96.8               |
| 403.gcc        | 16     | <b><u>1090</u></b> | <b><u>118</u></b>  | 1082               | 119                | 1091               | 118                | 16     | 1118               | 115                | 1104               | 117                | <b><u>1104</u></b> | <b><u>117</u></b>  |
| 429.mcf        | 16     | <b><u>1628</u></b> | <b><u>89.7</u></b> | 1629               | 89.6               | 1627               | 89.7               | 16     | 1630               | 89.5               | 1625               | 89.8               | <b><u>1628</u></b> | <b><u>89.6</u></b> |
| 445.gobmk      | 16     | <b><u>812</u></b>  | <b><u>207</u></b>  | 812                | 207                | 805                | 209                | 16     | 749                | 224                | <b><u>745</u></b>  | <b><u>225</u></b>  | 743                | 226                |
| 456.hammer     | 16     | 1049               | 142                | <b><u>1046</u></b> | <b><u>143</u></b>  | 1046               | 143                | 16     | <b><u>894</u></b>  | <b><u>167</u></b>  | 892                | 167                | 899                | 166                |
| 458.sjeng      | 16     | <b><u>980</u></b>  | <b><u>198</u></b>  | 980                | 198                | 979                | 198                | 16     | <b><u>888</u></b>  | <b><u>218</u></b>  | 891                | 217                | 888                | 218                |
| 462.libquantum | 16     | 5803               | 57.1               | <b><u>5810</u></b> | <b><u>57.1</u></b> | 5814               | 57.0               | 1      | <b><u>232</u></b>  | <b><u>89.3</u></b> | 235                | 88.1               | 230                | 90.1               |
| 464.h264ref    | 16     | 1137               | 311                | 1136               | 312                | <b><u>1137</u></b> | <b><u>311</u></b>  | 16     | 1088               | 325                | <b><u>1086</u></b> | <b><u>326</u></b>  | 1086               | 326                |
| 471.omnetpp    | 16     | 1143               | 87.5               | 1145               | 87.4               | <b><u>1145</u></b> | <b><u>87.4</u></b> | 16     | <b><u>1127</u></b> | <b><u>88.8</u></b> | 1129               | 88.6               | 1126               | 88.8               |
| 473.astar      | 16     | 1218               | 92.2               | <b><u>1220</u></b> | <b><u>92.1</u></b> | 1223               | 91.8               | 16     | 1150               | 97.7               | 1155               | 97.3               | <b><u>1152</u></b> | <b><u>97.5</u></b> |
| 483.xalancbmk  | 16     | 723                | 153                | 722                | 153                | <b><u>723</u></b>  | <b><u>153</u></b>  | 16     | 723                | 153                | 722                | 153                | <b><u>723</u></b>  | <b><u>153</u></b>  |

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

Optimization for high-frequency FSB applications set to OFF

All results used taskset to bind processes to 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-ia32-intel64-linux-flags.20090714.22.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-ia32-intel64-linux-flags.20090714.22.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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