# SPEC® CINT2006 Result

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## Acer Incorporated

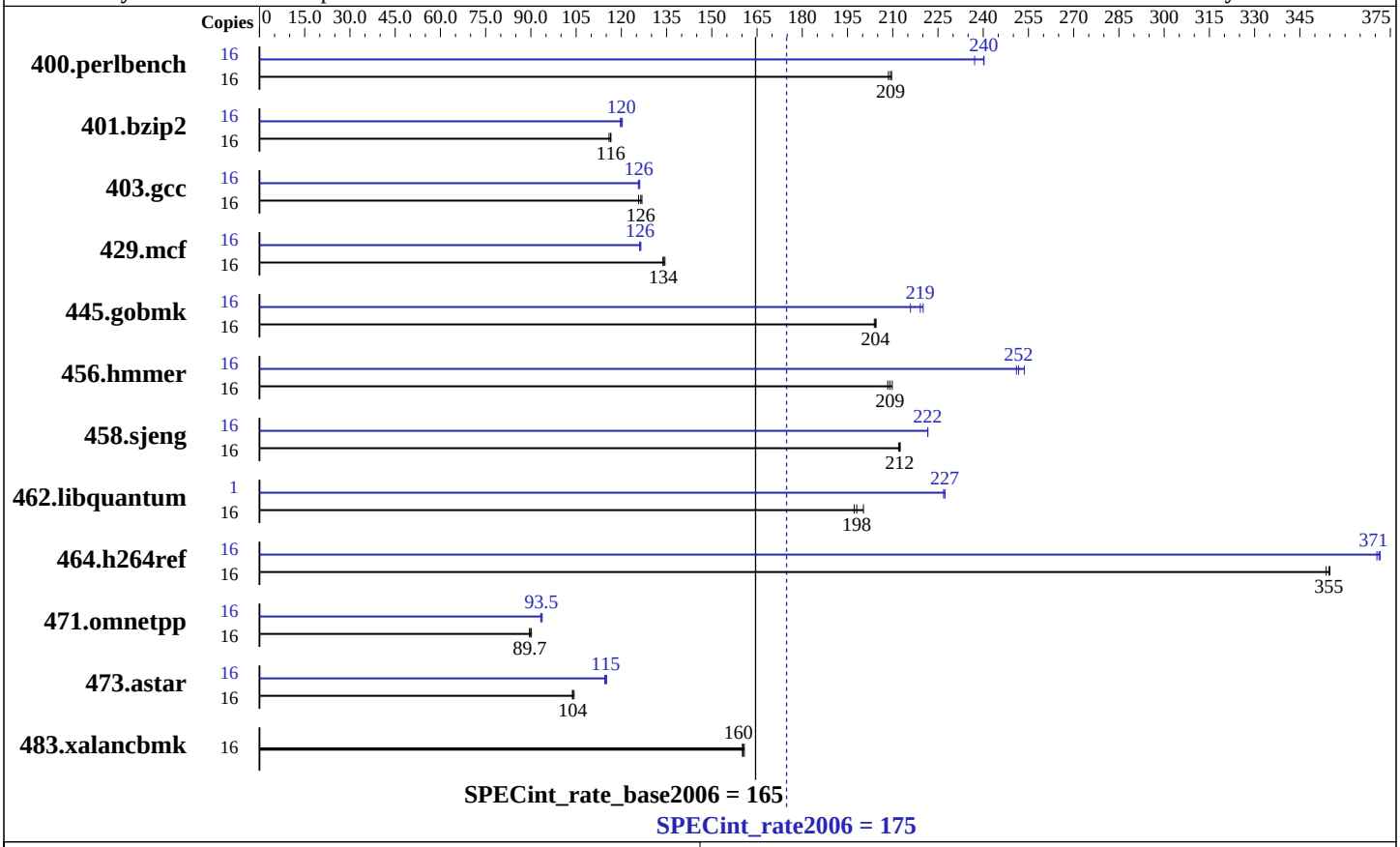
## Acer Altos R920 (Intel Xeon E7420)

**SPECint®_rate2006 = 175**

**SPECint_rate_base2006 = 165**

**CPU2006 license:** 97
**Test sponsor:** Acer Incorporated
**Tested by:** Acer Incorporated

**Test date:** Oct-2008
**Hardware Availability:** Sep-2008
**Software Availability:** Nov-2008




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E7420 |
| CPU Characteristics: | 1066MHz system bus |
| CPU MHz: | 2133 |
| 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: | 6 MB I+D on chip per chip, 3 MB shared / 2 cores |
| L3 Cache: | 8 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 32 GB (16 x 2048MB ECC FB-DIMM DDR2-667 CL5) |
| Disk Subsystem: | 1 x 73GB 10000RPM 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 20080730 Package ID: l_cproc_b_11.0.042 |
| 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 | 16 | 746 | 210 | 750 | 209 | **747** | **209** | 16 | 659 | 237 | 651 | 240 | **651** | **240** |
| 401.bzip2 | 16 | 1332 | 116 | **1326** | **116** | 1325 | 117 | 16 | 1283 | 120 | **1287** | **120** | 1290 | 120 |
| 403.gcc | 16 | 1015 | 127 | **1019** | **126** | 1025 | 126 | 16 | **1023** | **126** | 1025 | 126 | 1021 | 126 |
| 429.mcf | 16 | 1085 | 134 | **1089** | **134** | 1091 | 134 | 16 | 1154 | 126 | **1156** | **126** | 1158 | 126 |
| 445.gobmk | 16 | 821 | 204 | **822** | **204** | 823 | 204 | 16 | 778 | 216 | **766** | **219** | 763 | 220 |
| 456.hmmer | 16 | 711 | 210 | 717 | 208 | **714** | **209** | 16 | 589 | 254 | **593** | **252** | 595 | 251 |
| 458.sjeng | 16 | 911 | 212 | 913 | 212 | **912** | **212** | 16 | 874 | 222 | 874 | 222 | **874** | **222** |
| 462.libquantum | 16 | 1655 | 200 | **1674** | **198** | 1681 | 197 | 1 | **91.2** | **227** | 91.2 | 227 | 91.3 | 227 |
| 464.h264ref | 16 | 998 | 355 | 1001 | 354 | **998** | **355** | 16 | 953 | 372 | **954** | **371** | 956 | 371 |
| 471.omnetpp | 16 | 1109 | 90.2 | **1115** | **89.7** | 1117 | 89.5 | 16 | 1067 | 93.7 | 1072 | 93.3 | **1070** | **93.5** |
| 473.astar | 16 | 1077 | 104 | **1081** | **104** | 1082 | 104 | 16 | 976 | 115 | **978** | **115** | 981 | 114 |
| 483.xalancbmk | 16 | 687 | 161 | 689 | 160 | **689** | **160** | 16 | 687 | 161 | 689 | 160 | **689** | **160** |

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.
 All modules except 462.libquantum for peak assign
 copies to cores using the taskset command.
```

## Platform Notes

```
BIOS Settings
  Adjacent Cache Line Prefetch set to OFF
  Hardware Prefetch set to OFF
  High Bandwith Option set to OFF
```

## General Notes

```
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
```

## 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

## 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/11.0/042/bin/intel64/icc
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

456.hmmer: /opt/intel/Compiler/11.0/042/bin/intel64/icc
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

C++ benchmarks:
icpc

## Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64

Continued on next page

## Peak Portability Flags (Continued)

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.hmmer: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2 -ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll4

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 -unroll2 -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

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-ic11.0-int-linux64-revA.20090713.13.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.13.xml`


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For other inquiries, please contact webmaster@spec.org.

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