# SPEC® CINT2006 Result

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## Acer Incorporated

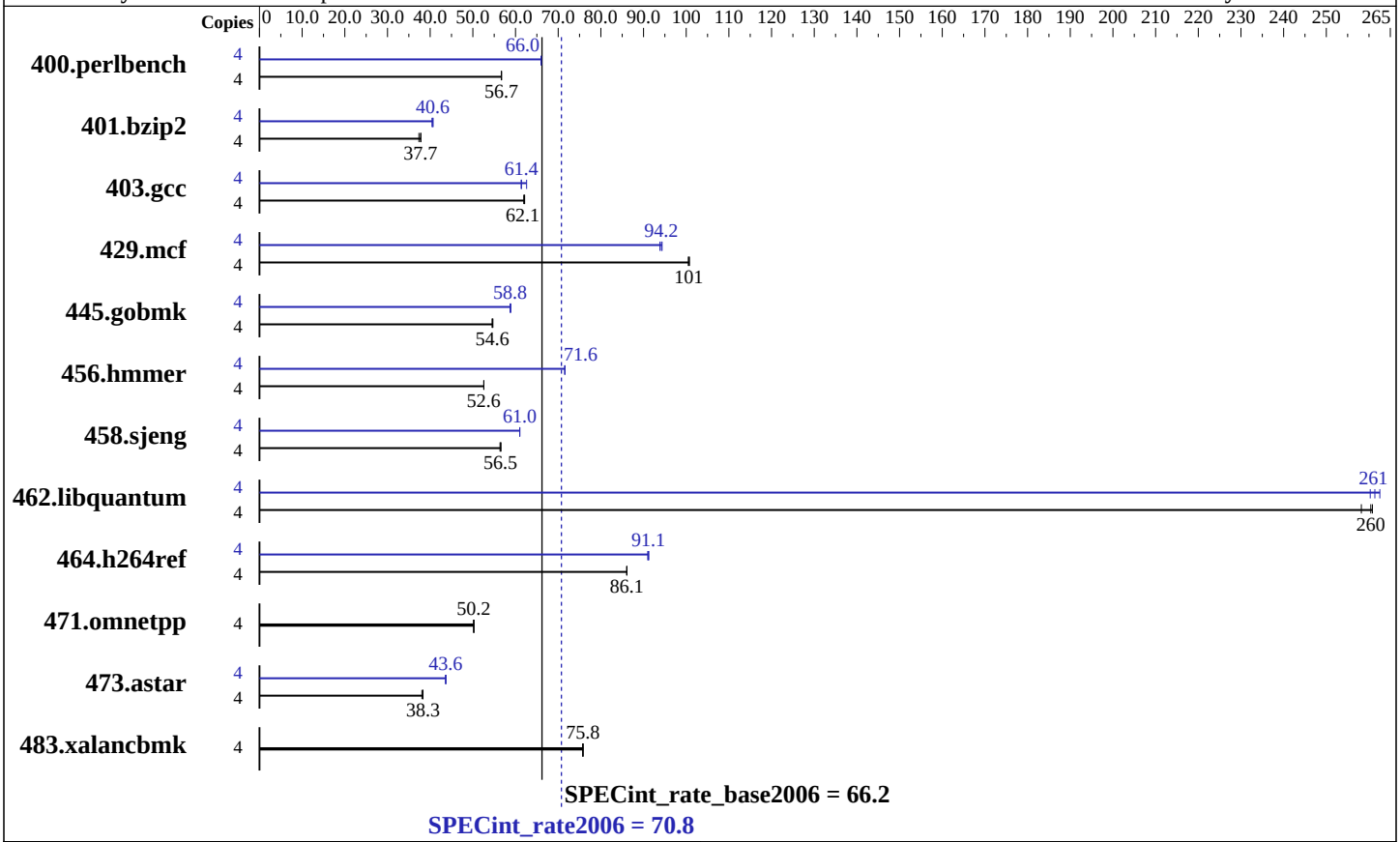
## Acer Altos G540 M2 (Intel Xeon E5502)

SPECint®_rate2006 = 70.8

SPECint_rate_base2006 = 66.2

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

**Test date:** Apr-2009
**Hardware Availability:** Mar-2009
**Software Availability:** Feb-2009




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5502 |
| CPU Characteristics: | |
| CPU MHz: | 1867 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 2 chips, 2 cores/chip |
| CPU(s) orderable: | 1,2 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 256 KB I+D on chip per core |
| L3 Cache: | 4 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 24 GB (6 x 4 GB Registered ECC DDR3-1333) |
| Disk Subsystem: | 320 GB SATA, 7200RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16.60-0.21-smp |
| Compiler: | Intel C++ Compiler 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080 |
| Auto Parallel: | No |
| File System: | ReiserFS |
| System State: | Run level 3 (multi-user) |
| 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 | 4 | 689 | 56.7 | 690 | 56.7 | **689** | **56.7** | 4 | **592** | **66.0** | 592 | 66.0 | 592 | 66.0 |
| 401.bzip2 | 4 | **1023** | **37.7** | 1020 | 37.8 | 1033 | 37.4 | 4 | **950** | **40.6** | 955 | 40.4 | 949 | 40.7 |
| 403.gcc | 4 | 518 | 62.1 | **519** | **62.1** | 520 | 61.9 | 4 | **524** | **61.4** | 514 | 62.6 | 525 | 61.3 |
| 429.mcf | 4 | 362 | 101 | 363 | 100 | **363** | **101** | 4 | **387** | **94.2** | 387 | 94.3 | 389 | 93.8 |
| 445.gobmk | 4 | 767 | 54.7 | **769** | **54.6** | 769 | 54.5 | 4 | 712 | 58.9 | 714 | 58.7 | **714** | **58.8** |
| 456.hmmer | 4 | 710 | 52.6 | 710 | 52.6 | **710** | **52.6** | 4 | 521 | 71.6 | 522 | 71.6 | **522** | **71.6** |
| 458.sjeng | 4 | 859 | 56.4 | 855 | 56.6 | **856** | **56.5** | 4 | 794 | 61.0 | **794** | **61.0** | 793 | 61.0 |
| 462.libquantum | 4 | 321 | 258 | **318** | **260** | 318 | 261 | 4 | **317** | **261** | 316 | 263 | 318 | 260 |
| 464.h264ref | 4 | **1028** | **86.1** | 1029 | 86.1 | 1028 | 86.1 | 4 | 970 | 91.2 | **972** | **91.1** | 973 | 91.0 |
| 471.omnetpp | 4 | 497 | 50.3 | 498 | 50.2 | **498** | **50.2** | 4 | 497 | 50.3 | 498 | 50.2 | **498** | **50.2** |
| 473.astar | 4 | 738 | 38.1 | 733 | 38.3 | **733** | **38.3** | 4 | 644 | 43.6 | 642 | 43.7 | **643** | **43.6** |
| 483.xalancbmk | 4 | 364 | 75.7 | **364** | **75.8** | 364 | 75.9 | 4 | 364 | 75.7 | **364** | **75.8** | 364 | 75.9 |

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.
 numactl was used to bind copies to the cores
```

## Operating System Notes

```
'ulimit -s unlimited' was set for stacksize unlimited
```

## Platform Notes

```
BIOS setting
 Hardware Prefetcher: Enabled
 Adjacent Cache Line Prefetch: Enabled
```

# 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:
-xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:
-xSSE4.2 -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/11.0/080/bin/intel64/icc

456.hmmer: /opt/intel/Compiler/11.0/080/bin/intel64/icc

458.sjeng: /opt/intel/Compiler/11.0/080/bin/intel64/icc

C++ benchmarks (except as noted below):
icpc

473.astar: /opt/intel/Compiler/11.0/080/bin/intel64/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)

458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -ansi-alias -opt-prefetch

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc -opt-malloc-options=3

429.mcf: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -opt-prefetch

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2 -ipo -no-prec-div -ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2 -ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-malloc-options=3 -opt-prefetch

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2) -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: basepeak = yes

473.astar: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -ansi-alias -opt-ra-region-strategy=routine -auto-ilp32 -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap64

Continued on next page

## Peak Optimization Flags (Continued)

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.20090710.02.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.20090710.02.xml`


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

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