## SPEC® CFP2006 Result

### Acer Incorporated

**Acer Altos R920 (Intel Xeon E7320)**

| SPECfp®_rate2006 | 52.3 |
| SPECfp_rate_base2006 | 48.8 |

**CPU2006 license:** 97  
**Test date:** Oct-2007  
**Test sponsor:** Acer Incorporated  
**Tested by:** Acer Incorporated

**Hardware**

- **CPU Name:** Intel Xeon E7320  
- **CPU Characteristics:** 1066MHz system bus  
- **CPU MHz:** 2130  
- **FPU:** Integrated  
- **CPU(s) enabled:** 8 cores, 2 chips, 4 cores/chip  
- **CPU(s) orderable:** 1, 2, 3, 4 chips  
- **Primary Cache:** 32 KB I + 32 KB D on chip per core  
- **Secondary Cache:** 4 MB I+D on chip per core, 2 MB shared / 2 cores

**Software**

- **Operating System:** SuSE Linux Enterprise Server 10 SP1 (x86_64)  
  Kernel 2.6.16.46-0.12-smp  
- **Compiler:** Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1  
  Build 20070725  
- **Auto Parallel:** Yes  
- **File System:** ReiserFS  
- **System State:** Multi-user, level 3  
- **Base Pointers:** 64-bit

### Benchmark Results

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>SPECfp_rate2006</th>
<th>SPECfp_rate_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>29.4</td>
<td>120</td>
</tr>
<tr>
<td>416.gamess</td>
<td>27.7</td>
<td>98.0</td>
</tr>
<tr>
<td>433.milc</td>
<td>27.1</td>
<td>97.7</td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>55.0</td>
<td>75.0</td>
</tr>
<tr>
<td>435.gromacs</td>
<td>54.3</td>
<td>70.0</td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>98.0</td>
<td>97.7</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>75.0</td>
<td>70.0</td>
</tr>
<tr>
<td>444.namd</td>
<td>75.2</td>
<td>72.9</td>
</tr>
<tr>
<td>447.dealII</td>
<td>30.1</td>
<td>26.4</td>
</tr>
<tr>
<td>450.soplex</td>
<td>60.2</td>
<td>120</td>
</tr>
<tr>
<td>453.povray</td>
<td>55.0</td>
<td>55.0</td>
</tr>
<tr>
<td>454.calculix</td>
<td>1106</td>
<td>136</td>
</tr>
<tr>
<td>459.GemsFDTD</td>
<td>22.2</td>
<td>78.9</td>
</tr>
<tr>
<td>465.tonto</td>
<td>62.1</td>
<td>62.1</td>
</tr>
<tr>
<td>470.lbm</td>
<td>41.1</td>
<td>40.7</td>
</tr>
<tr>
<td>481.wrf</td>
<td>38.2</td>
<td>38.2</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>35.8</td>
<td>35.8</td>
</tr>
</tbody>
</table>

**Copies**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>SPECfp_rate2006</th>
<th>SPECfp_rate_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>8</td>
<td>29.4</td>
<td>120</td>
</tr>
<tr>
<td>416.gamess</td>
<td>8</td>
<td>27.7</td>
<td>98.0</td>
</tr>
<tr>
<td>433.milc</td>
<td>8</td>
<td>27.1</td>
<td>97.7</td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>8</td>
<td>55.0</td>
<td>75.0</td>
</tr>
<tr>
<td>435.gromacs</td>
<td>8</td>
<td>54.3</td>
<td>70.0</td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>1</td>
<td>75.0</td>
<td>70.0</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>8</td>
<td>22.1</td>
<td>120</td>
</tr>
<tr>
<td>444.namd</td>
<td>8</td>
<td>21.2</td>
<td>90.0</td>
</tr>
<tr>
<td>447.dealII</td>
<td>8</td>
<td>90.0</td>
<td>89.5</td>
</tr>
<tr>
<td>450.soplex</td>
<td>8</td>
<td>30.1</td>
<td>30.1</td>
</tr>
<tr>
<td>453.povray</td>
<td>8</td>
<td>60.2</td>
<td>120</td>
</tr>
<tr>
<td>454.calculix</td>
<td>8</td>
<td>75.0</td>
<td>75.0</td>
</tr>
<tr>
<td>459.GemsFDTD</td>
<td>8</td>
<td>22.2</td>
<td>78.9</td>
</tr>
<tr>
<td>465.tonto</td>
<td>8</td>
<td>62.1</td>
<td>62.1</td>
</tr>
<tr>
<td>470.lbm</td>
<td>8</td>
<td>41.1</td>
<td>40.7</td>
</tr>
<tr>
<td>481.wrf</td>
<td>8</td>
<td>38.2</td>
<td>38.2</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>8</td>
<td>35.8</td>
<td>35.8</td>
</tr>
</tbody>
</table>

**Hardware Availability:** Nov-2007  
**Software Availability:** Nov-2007

Continued on next page
## SPEC CFP2006 Result

**Acer Incorporated**

**Acer Altos R920 (Intel Xeon E7320)**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base Copies</th>
<th>Base Seconds</th>
<th>Base Ratio</th>
<th>Base Seconds</th>
<th>Base Ratio</th>
<th>Peaks Copies</th>
<th>Peaks Seconds</th>
<th>Peaks Ratio</th>
<th>Base Seconds</th>
<th>Base Ratio</th>
<th>Peaks Seconds</th>
<th>Peaks Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>bwaves</td>
<td>8</td>
<td>3767</td>
<td>28.9</td>
<td>3701</td>
<td>29.4</td>
<td>3688</td>
<td>29.5</td>
<td>8</td>
<td>3591</td>
<td>30.3</td>
<td>3579</td>
<td>30.4</td>
</tr>
<tr>
<td>gamess</td>
<td>8</td>
<td>1309</td>
<td>120</td>
<td>1310</td>
<td>120</td>
<td>1310</td>
<td>120</td>
<td>8</td>
<td>1290</td>
<td>121</td>
<td>1297</td>
<td>121</td>
</tr>
<tr>
<td>mile</td>
<td>8</td>
<td>2784</td>
<td>26.4</td>
<td>2696</td>
<td>27.2</td>
<td>2709</td>
<td>27.1</td>
<td>8</td>
<td>2714</td>
<td>27.1</td>
<td>2641</td>
<td>27.8</td>
</tr>
<tr>
<td>zeusmp</td>
<td>8</td>
<td>1356</td>
<td>53.7</td>
<td>1336</td>
<td>54.5</td>
<td>1341</td>
<td>54.3</td>
<td>8</td>
<td>1334</td>
<td>54.6</td>
<td>1323</td>
<td>55.0</td>
</tr>
<tr>
<td>gromacs</td>
<td>8</td>
<td>585</td>
<td>97.7</td>
<td>586</td>
<td>97.6</td>
<td>584</td>
<td>97.8</td>
<td>8</td>
<td>585</td>
<td>97.7</td>
<td>583</td>
<td>98.0</td>
</tr>
<tr>
<td>cactusADM</td>
<td>8</td>
<td>1592</td>
<td>60.0</td>
<td>1588</td>
<td>60.2</td>
<td>1585</td>
<td>60.3</td>
<td>1</td>
<td>159</td>
<td>75.0</td>
<td>160</td>
<td>74.8</td>
</tr>
<tr>
<td>lesie3d</td>
<td>8</td>
<td>3679</td>
<td>20.4</td>
<td>3546</td>
<td>21.2</td>
<td>3555</td>
<td>21.2</td>
<td>8</td>
<td>3443</td>
<td>21.8</td>
<td>3397</td>
<td>22.1</td>
</tr>
<tr>
<td>namd</td>
<td>8</td>
<td>716</td>
<td>89.6</td>
<td>718</td>
<td>89.4</td>
<td>717</td>
<td>89.5</td>
<td>8</td>
<td>712</td>
<td>90.1</td>
<td>713</td>
<td>90.0</td>
</tr>
<tr>
<td>dealII</td>
<td>8</td>
<td>1212</td>
<td>75.5</td>
<td>1255</td>
<td>72.9</td>
<td>1266</td>
<td>72.3</td>
<td>8</td>
<td>1217</td>
<td>75.2</td>
<td>1243</td>
<td>73.6</td>
</tr>
<tr>
<td>soplex</td>
<td>8</td>
<td>2600</td>
<td>25.7</td>
<td>2526</td>
<td>26.4</td>
<td>2521</td>
<td>26.5</td>
<td>8</td>
<td>2265</td>
<td>29.5</td>
<td>2220</td>
<td>30.1</td>
</tr>
<tr>
<td>povray</td>
<td>8</td>
<td>314</td>
<td>136</td>
<td>312</td>
<td>137</td>
<td>315</td>
<td>135</td>
<td>8</td>
<td>266</td>
<td>160</td>
<td>266</td>
<td>160</td>
</tr>
<tr>
<td>calculix</td>
<td>8</td>
<td>837</td>
<td>78.9</td>
<td>833</td>
<td>79.3</td>
<td>841</td>
<td>78.5</td>
<td>8</td>
<td>622</td>
<td>106</td>
<td>613</td>
<td>108</td>
</tr>
<tr>
<td>GemsFDTD</td>
<td>8</td>
<td>3890</td>
<td>21.8</td>
<td>3949</td>
<td>21.5</td>
<td>3944</td>
<td>21.5</td>
<td>8</td>
<td>3838</td>
<td>22.1</td>
<td>3819</td>
<td>22.2</td>
</tr>
<tr>
<td>tonto</td>
<td>8</td>
<td>1288</td>
<td>61.1</td>
<td>1302</td>
<td>60.5</td>
<td>1310</td>
<td>60.1</td>
<td>8</td>
<td>1266</td>
<td>62.2</td>
<td>1279</td>
<td>61.6</td>
</tr>
<tr>
<td>lbm</td>
<td>8</td>
<td>4927</td>
<td>22.3</td>
<td>4935</td>
<td>22.3</td>
<td>4932</td>
<td>22.3</td>
<td>8</td>
<td>4572</td>
<td>24.0</td>
<td>4579</td>
<td>24.0</td>
</tr>
<tr>
<td>wrf</td>
<td>8</td>
<td>2209</td>
<td>40.4</td>
<td>2198</td>
<td>40.7</td>
<td>2196</td>
<td>40.7</td>
<td>8</td>
<td>2176</td>
<td>41.1</td>
<td>2164</td>
<td>41.3</td>
</tr>
<tr>
<td>sphinx3</td>
<td>8</td>
<td>4315</td>
<td>36.1</td>
<td>4392</td>
<td>35.5</td>
<td>4351</td>
<td>35.8</td>
<td>8</td>
<td>4085</td>
<td>38.2</td>
<td>4079</td>
<td>38.2</td>
</tr>
</tbody>
</table>

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

- All results but peak 436.cactusADM used taskset to bind processes to cores.
  - "ulimit -s unlimited" was set for stacksize unlimited
  - OMP_NUM_THREADS set to number of cores
## SPEC CFP2006 Result

**Acer Incorporated**

Acer Altos R920 (Intel Xeon E7320)

| SPECfp_rate2006 | 52.3 |
| SPECfp_rate_base2006 | 48.8 |

**CPU2006 license:** 97  
**Test sponsor:** Acer Incorporated  
**Test date:** Oct-2007  
**Tested by:** Acer Incorporated  
**Hardware Availability:** Nov-2007  
**Software Availability:** Nov-2007

### Base Compiler Invocation

- **C benchmarks:**
  - `icc`

- **C++ benchmarks:**
  - `icpc`

- **Fortran benchmarks:**
  - `ifort`

- **Benchmarks using both Fortran and C:**
  - `icc ifort`

### Base Portability Flags

- `410.bwaves`: `-DSPEC_CPU_LP64`
- `416.gamess`: `-DSPEC_CPU_LP64`
- `433.milc`: `-DSPEC_CPU_LP64`
- `434.zeusmp`: `-DSPEC_CPU_LP64`
- `435.gromacs`: `-DSPEC_CPU_LP64 -nofor_main`
- `436.cactusADM`: `-DSPEC_CPU_LP64 -nofor_main`
- `437.leslie3d`: `-DSPEC_CPU_LP64`
- `444.namd`: `-DSPEC_CPU_LP64`
- `447.dealII`: `-DSPEC_CPU_LP64`
- `450.soplex`: `-DSPEC_CPU_LP64`
- `453.povray`: `-DSPEC_CPU_LP64`
- `454.calculix`: `-DSPEC_CPU_LP64 -nofor_main`
- `459.GemsFDTD`: `-DSPEC_CPU_LP64`
- `465.tonto`: `-DSPEC_CPU_LP64`
- `470.lbm`: `-DSPEC_CPU_LP64`
- `481.wrf`: `-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX`
- `482.sphinx3`: `-DSPEC_CPU_LP64`

### Base Optimization Flags

- **C benchmarks:**
  - `-fast`

- **C++ benchmarks:**
  - `-fast`

- **Fortran benchmarks:**
  - `-fast`

- **Benchmarks using both Fortran and C:**
  - `-fast`
Acer Incorporated
Acer Altos R920 (Intel Xeon E7320)

SPECfp_rate2006 = 52.3
SPECfp_rate_base2006 = 48.8

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

Peak Compiler Invocation

C benchmarks (except as noted below):
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include

433.milc: icc

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

450.soplex: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icpc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include

Fortran benchmarks (except as noted below):
ifort

437.leslie3d: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/ifort
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include

Benchmarks using both Fortran and C:
icc ifort

Peak Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32

Continued on next page
Acer Incorporated
Acer Altos R920 (Intel Xeon E7320)

SPECfp_rate2006 = 52.3
SPECfp_rate_base2006 = 48.8

CPU2006 license: 97
Test sponsor: Acer Incorporated
Tested by: Acer Incorporated
Test date: Oct-2007
Hardware Availability: Nov-2007
Software Availability: Nov-2007

Peak Optimization Flags (Continued)

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
          -scalar-rep -prefetch -opt-malloc-options=3

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
          -auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
          -ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast
          -opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4
          -ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
          -ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
          -opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
          -prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
          -auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
          -prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32
Acer Incorporated
Acer Altos R920 (Intel Xeon E7320)

SPECfp_rate2006 = 52.3
SPECfp_rate_base2006 = 48.8

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

Test date: Oct-2007
Hardware Availability: Nov-2007
Software Availability: Nov-2007

The flags file that was used to format this result can be browsed at

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090713.00.xml

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 18:10:36 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 9 April 2008.