



# SPEC® CFP2006 Result

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Acer Incorporated

Acer AT110 F2(Xeon E3-1280)

**SPECfp®\_rate2006 = 123**

**SPECfp\_rate\_base2006 = 119**

CPU2006 license: 97

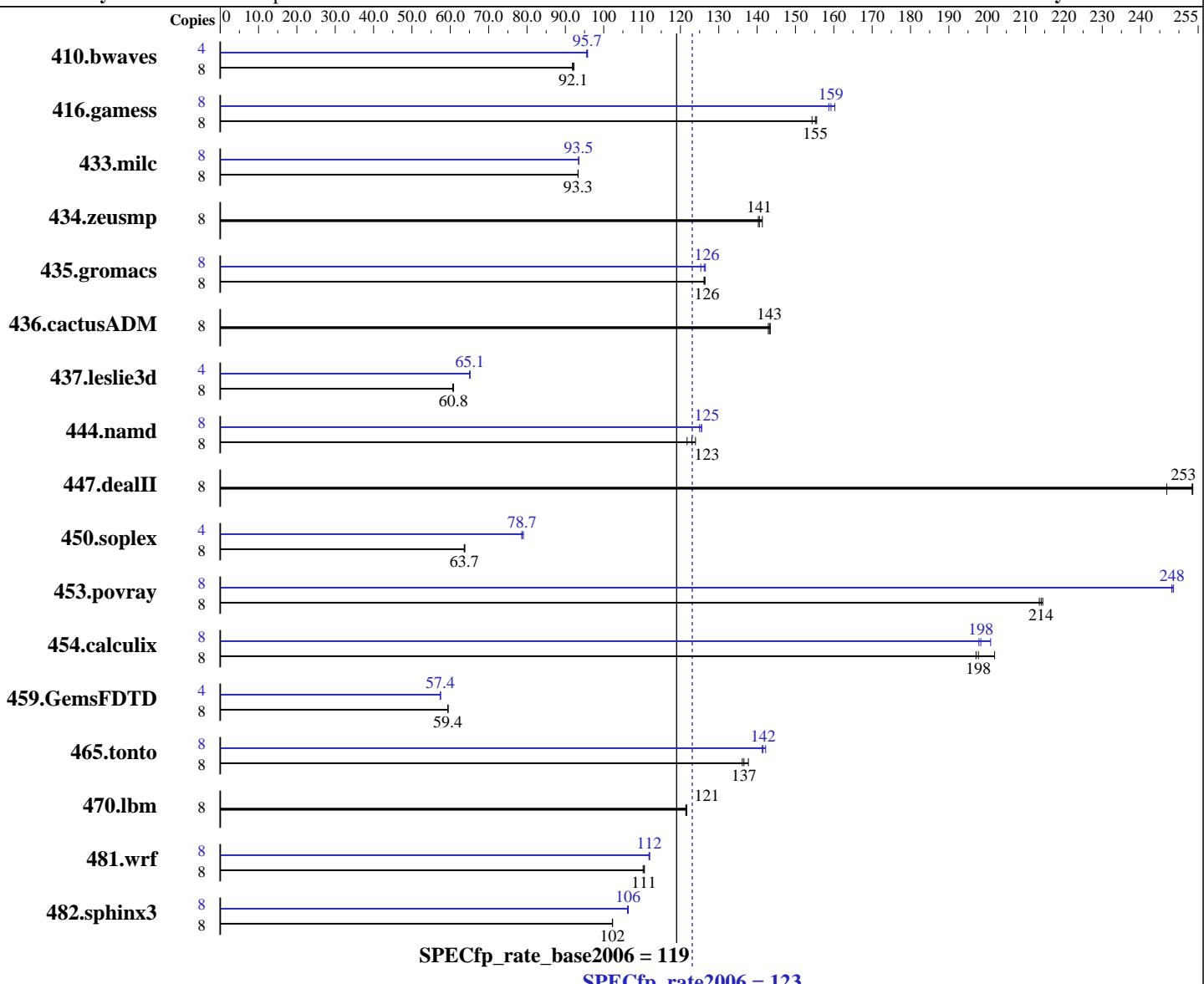
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Dec-2011

Hardware Availability: Apr-2011

Software Availability: Oct-2011



## Hardware

CPU Name: Intel Xeon E3-1280  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.90 GHz  
 CPU MHz: 3500  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core  
 CPU(s) orderable: 1 chip  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core

## Software

Operating System: Red Hat Enterprise Linux Server release 6.1 (Santiago)  
 Compiler: 2.6.32-131.0.15.el6.x86\_64  
 C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux;  
 Fortran: Version 12.1.0.225 of Intel Fortran Studio XE for Linux  
 Auto Parallel: No  
 File System: ext4

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L3 Cache: 8 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 8 GB (2 x 4 GB 2Rx8 PC3-10600E-9, ECC)  
 Disk Subsystem: 1 x 640 GB SATA, 7200 RPM  
 Other Hardware: None

System State: Run level 3 (add definition here)  
 Base Pointers: 32/64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: None

## Results Table

| Benchmark     | Base   |             |             |            |            |             |             | Peak   |             |             |            |             |            |             |
|---------------|--------|-------------|-------------|------------|------------|-------------|-------------|--------|-------------|-------------|------------|-------------|------------|-------------|
|               | Copies | Seconds     | Ratio       | Seconds    | Ratio      | Seconds     | Ratio       | Copies | Seconds     | Ratio       | Seconds    | Ratio       | Seconds    | Ratio       |
| 410.bwaves    | 8      | 1184        | 91.8        | 1179       | 92.2       | <b>1181</b> | <b>92.1</b> | 4      | <b>568</b>  | <b>95.7</b> | 567        | 95.8        | 569        | 95.5        |
| 416.gamess    | 8      | <b>1009</b> | <b>155</b>  | 1015       | 154        | 1007        | 156         | 8      | <b>977</b>  | 160         | 987        | 159         | <b>984</b> | <b>159</b>  |
| 433.milc      | 8      | 787         | 93.3        | 787        | 93.3       | <b>787</b>  | <b>93.3</b> | 8      | <b>785</b>  | 93.5        | 786        | 93.5        | <b>786</b> | <b>93.5</b> |
| 434.zeusmp    | 8      | <b>518</b>  | <b>141</b>  | 515        | 141        | 519         | 140         | 8      | <b>518</b>  | <b>141</b>  | 515        | 141         | 519        | 140         |
| 435.gromacs   | 8      | 453         | 126         | <b>453</b> | <b>126</b> | 452         | 126         | 8      | 451         | 127         | <b>453</b> | <b>126</b>  | 456        | 125         |
| 436.cactusADM | 8      | 669         | 143         | <b>668</b> | <b>143</b> | 666         | 143         | 8      | 669         | 143         | <b>668</b> | <b>143</b>  | 666        | 143         |
| 437.leslie3d  | 8      | 1236        | 60.8        | 1241       | 60.6       | <b>1237</b> | <b>60.8</b> | 4      | <b>578</b>  | <b>65.1</b> | 578        | 65.1        | 577        | 65.1        |
| 444.namd      | 8      | 527         | 122         | <b>522</b> | <b>123</b> | 518         | 124         | 8      | 513         | 125         | <b>511</b> | <b>125</b>  | 511        | 126         |
| 447.dealII    | 8      | <b>361</b>  | <b>253</b>  | 361        | 254        | 371         | 247         | 8      | <b>361</b>  | <b>253</b>  | 361        | 254         | 371        | 247         |
| 450.soplex    | 8      | <b>1048</b> | <b>63.7</b> | 1046       | 63.8       | 1048        | 63.6        | 4      | 424         | 78.7        | <b>424</b> | <b>78.7</b> | 422        | 79.1        |
| 453.povray    | 8      | 198         | 214         | <b>199</b> | <b>214</b> | 199         | 214         | 8      | 172         | 248         | <b>171</b> | <b>248</b>  | 171        | 249         |
| 454.calculix  | 8      | <b>334</b>  | <b>198</b>  | 327        | 202        | 335         | 197         | 8      | 334         | 198         | 329        | 201         | <b>333</b> | <b>198</b>  |
| 459.GemsFDTD  | 8      | <b>1429</b> | <b>59.4</b> | 1428       | 59.4       | 1431        | 59.3        | 4      | 740         | 57.4        | 738        | 57.5        | <b>739</b> | <b>57.4</b> |
| 465.tonto     | 8      | <b>576</b>  | <b>137</b>  | 578        | 136        | 572         | 138         | 8      | 553         | 142         | <b>556</b> | <b>142</b>  | 557        | 141         |
| 470.lbm       | 8      | 904         | 122         | 905        | 121        | <b>905</b>  | <b>121</b>  | 8      | 904         | 122         | 905        | 121         | <b>905</b> | <b>121</b>  |
| 481.wrf       | 8      | <b>809</b>  | <b>111</b>  | 810        | 110        | 808         | 111         | 8      | 799         | 112         | <b>799</b> | <b>112</b>  | 798        | 112         |
| 482.sphinx3   | 8      | 1525        | 102         | 1524       | 102        | <b>1524</b> | <b>102</b>  | 8      | <b>1466</b> | <b>106</b>  | 1465       | 106         | 1468       | 106         |

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

## Submit Notes

The taskset mechanism was used to bind copies to processors. The config file option 'submit' was used to generate taskset commands to bind each copy to a specific processor. For details, please see the config file.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"  
 Hugepages were not configured on the system.



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## Platform Notes

BIOS Settings:

HW Prefetcher = Enabled

EIST = Enabled

Turbo Mode = Enabled

C6-State = Enabled

Sysinfo program /usr/cpu2006/config/sysinfo.rev6800

\$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3

running on localhost.localdomain Wed Dec 14 22:39:48 2011

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:

<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

```
From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E31280 @ 3.50GHz
        1 "physical id"s (chips)
        8 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
caution.)
cpu cores : 4
siblings : 8
physical 0: cores 0 1 2 3
cache size : 8192 KB
```

```
From /proc/meminfo
MemTotal:      8179252 kB
HugePages_Total:       0
Hugepagesize:     2048 kB
```

```
/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.1 (Santiago)
```

```
From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.1 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

```
uname -a:
Linux localhost.localdomain 2.6.32-131.0.15.el6.x86_64 #1 SMP Tue May 10
15:42:40 EDT 2011 x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Dec 14 12:13
```

```
SPEC is set to: /usr/cpu2006
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/VolGroup-lv_root
                  ext4   769G   24G  707G    4%  /
```

Additional information from dmidecode:

Memory:

2x Nanya NT4GC72B8PB0NF-CG 4 GB 1333 MHz 2 rank

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## Platform Notes (Continued)

(End of data from sysinfo program)

## General Notes

Environment variables set by runspec before the start of the run:  
LD\_LIBRARY\_PATH = "/usr/cpu2006/lib32:/usr/cpu2006/lib64"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB  
memory using RHEL5.5

Transparent Huge Pages disabled with:  
echo never > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled

## Base Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## 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



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## Base Optimization Flags

C benchmarks:

```
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32  
-ansi-alias
```

C++ benchmarks:

```
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32  
-ansi-alias
```

Fortran benchmarks:

```
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch
```

Benchmarks using both Fortran and C:

```
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32  
-ansi-alias
```

## Peak Compiler Invocation

C benchmarks (except as noted below):

```
icc -m64
```

482.sphinx3: `icc -m32`

C++ benchmarks (except as noted below):

```
icpc -m64
```

450.soplex: `icpc -m32`

Fortran benchmarks:

```
ifort -m64
```

Benchmarks using both Fortran and C:

```
icc -m64 ifort -m64
```

## 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  
437.leslie3d: -DSPEC_CPU_LP64  
444.namd: -DSPEC_CPU_LP64  
447.dealII: -DSPEC_CPU_LP64  
453.povray: -DSPEC_CPU_LP64
```

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## Peak Portability Flags (Continued)

454.calculix: -DSPEC\_CPU\_LP64 -nofor\_main  
465.tonto: -DSPEC\_CPU\_LP64  
470.lbm: -DSPEC\_CPU\_LP64  
481.wrf: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_CASE\_FLAG -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

433.milc: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32  
  
470.lbm: basepeak = yes  
  
482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2

C++ benchmarks:

444.namd: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -fno-alias  
-auto-ilp32  
  
447.dealII: basepeak = yes  
  
450.soplex: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3  
  
453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -static  
  
416.gamess: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2  
-inline-level=0 -scalar-rep -static  
  
434.zeusmp: basepeak = yes  
  
437.leslie3d: -xAVX -ipo -O3 -no-prec-div -static -opt-prefetch  
  
459.GemsFDTD: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3  
  
465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto  
-inline-calloc -opt-malloc-options=3

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## Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

```
435.gromacs: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
               -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
               -static -auto-ilp32
```

```
436.cactusADM: basepeak = yes
```

```
454.calculix: -xAVX -ipo -O3 -no-prec-div -static -auto-ilp32
```

```
481.wrf: Same as 454.calculix
```

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html>

<http://www.spec.org/cpu2006/flags/Invalid-Platform-Settings-V1.2-revA.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>

<http://www.spec.org/cpu2006/flags/Invalid-Platform-Settings-V1.2-revA.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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