



# SPEC<sup>®</sup> CFP2006 Result

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## Acer Incorporated

### SPECfp<sup>®</sup>\_rate2006 = 114

### Acer AT110 F2, (Intel Xeon E3-1220 v2, 3.10 GHz)

### SPECfp\_rate\_base2006 = 114

CPU2006 license: 97

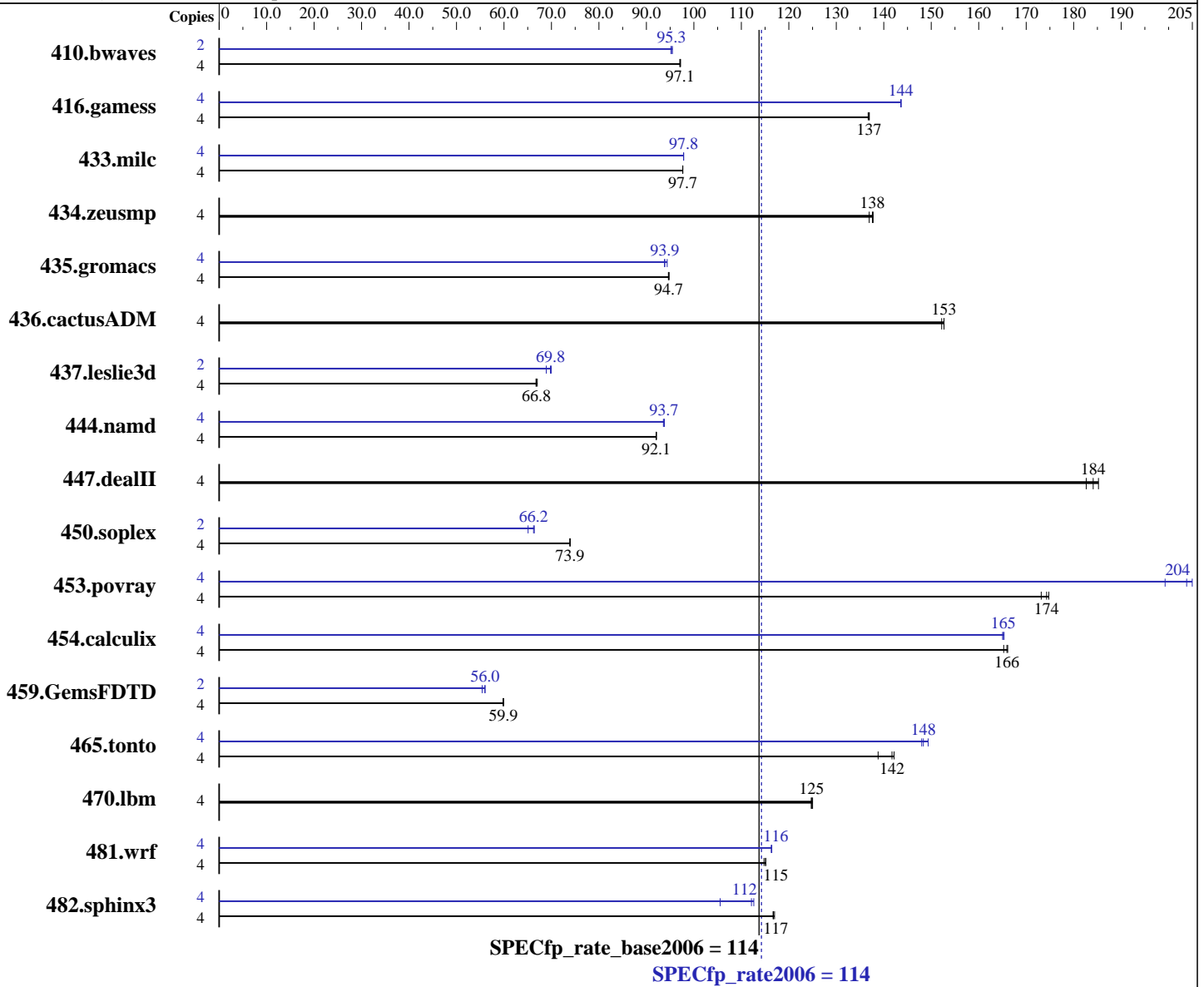
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Jun-2012

Hardware Availability: Jan-2012

Software Availability: Dec-2011



#### Hardware

CPU Name: Intel Xeon E3-1220 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz  
 CPU MHz: 3100  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 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

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#### Software

Operating System: Red Hat Enterprise Linux Server release 6.0 (Santiago)  
 2.6.32-71.el6.x86\_64  
 Compiler: 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: ext3

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L3 Cache: 8 MB I+D on chip per chip  
Other Cache: None  
Memory: 16 GB (2 x 8 GB 2Rx8 PC3L-10600E-9-11-E0, ECC)  
Disk Subsystem: 1 x 500 GB SATAII, 7200RPM  
Other Hardware: None

System State: Run level 3 (multi-user)  
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	4	559	97.2	<b>560</b>	<b>97.1</b>	560	97.0	2	<b>285</b>	<b>95.3</b>	285	95.5	286	95.2		
416.gamess	4	<b>572</b>	<b>137</b>	573	137	572	137	4	546	144	545	144	<b>545</b>	<b>144</b>		
433.milc	4	376	97.7	<b>376</b>	<b>97.7</b>	376	97.6	4	375	97.8	<b>375</b>	<b>97.8</b>	375	97.8		
434.zeusmp	4	<b>265</b>	<b>138</b>	264	138	266	137	4	<b>265</b>	<b>138</b>	264	138	266	137		
435.gromacs	4	301	94.8	302	94.6	<b>302</b>	<b>94.7</b>	4	303	94.4	<b>304</b>	<b>93.9</b>	304	93.8		
436.cactusADM	4	314	152	<b>313</b>	<b>153</b>	313	153	4	314	152	<b>313</b>	<b>153</b>	313	153		
437.leslie3d	4	561	67.0	<b>563</b>	<b>66.8</b>	563	66.7	2	273	68.9	269	70.0	<b>269</b>	<b>69.8</b>		
444.namd	4	<b>348</b>	<b>92.1</b>	349	92.0	348	92.1	4	342	93.8	<b>342</b>	<b>93.7</b>	343	93.6		
447.dealII	4	247	185	<b>249</b>	<b>184</b>	251	183	4	247	185	<b>249</b>	<b>184</b>	251	183		
450.soplex	4	451	73.9	<b>451</b>	<b>73.9</b>	451	73.9	2	256	65.1	<b>252</b>	<b>66.2</b>	251	66.4		
453.povray	4	122	175	123	173	<b>122</b>	<b>174</b>	4	104	205	<b>104</b>	<b>204</b>	107	199		
454.calculix	4	199	166	<b>199</b>	<b>166</b>	200	165	4	<b>200</b>	<b>165</b>	200	165	200	165		
459.GemsFDTD	4	710	59.8	<b>709</b>	<b>59.9</b>	708	59.9	2	383	55.4	379	56.0	<b>379</b>	<b>56.0</b>		
465.tonto	4	284	139	277	142	<b>278</b>	<b>142</b>	4	264	149	266	148	<b>265</b>	<b>148</b>		
470.lbm	4	440	125	<b>440</b>	<b>125</b>	441	125	4	440	125	<b>440</b>	<b>125</b>	441	125		
481.wrf	4	389	115	<b>388</b>	<b>115</b>	388	115	4	384	116	<b>384</b>	<b>116</b>	384	116		
482.sphinx3	4	666	117	668	117	<b>668</b>	<b>117</b>	4	692	113	739	106	<b>695</b>	<b>112</b>		

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"

## Platform Notes

Sysinfo program /user/cpu2006/config/sysinfo.rev6800  
\$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3  
running on localhost.localdomain Sat Jun 23 00:20:32 2012

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## Platform Notes (Continued)

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 E3-1220 V2 @ 3.10GHz
 1 "physical id"s (chips)
 4 "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   : 4
physical 0: cores 0 1 2 3
cache size : 8192 KB
```

From /proc/meminfo

```
MemTotal:      16437540 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

/usr/bin/lsb\_release -d

```
Red Hat Enterprise Linux Server release 6.0 (Santiago)
```

From /etc/\*release\* /etc/\*version\*

```
redhat-release: Red Hat Enterprise Linux Server release 6.0 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.0 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

uname -a:

```
Linux localhost.localdomain 2.6.32-71.el6.x86_64 #1 SMP Wed Sep 1 01:33:01 EDT 2010 x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Jun 22 17:56

SPEC is set to: /user/cpu2006

```
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sda2        ext3      197G  13G  174G   7% /
```

Additional information from dmidecode:

BIOS Acer D22 06/18/2012

Memory:

2x 830B NT8GC72C8PB0NF-CG 8 GB 1333 MHz 2 rank

(End of data from sysinfo program)



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## General Notes

Environment variables set by runspec before the start of the run:  
LD\_LIBRARY\_PATH = "/user/cpu2006/libs/32:/user/cpu2006/libs/64"

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

## Base Optimization Flags

C benchmarks:

-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32  
-ansi-alias -opt-mem-layout-trans=3

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## Base Optimization Flags (Continued)

C++ benchmarks:

-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32  
-ansi-alias -opt-mem-layout-trans=3

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 -opt-mem-layout-trans=3

## 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  
454.calculix: -DSPEC\_CPU\_LP64 -nofor\_main  
465.tonto: -DSPEC\_CPU\_LP64

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## Peak Portability Flags (Continued)

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  
-opt-mem-layout-trans=3

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 -opt-mem-layout-trans=3
```

436.cactusADM: basepeak = yes

```
454.calculix: -xAVX -ipo -O3 -no-prec-div -static -auto-ilp32
             -opt-mem-layout-trans=3
```

481.wrf: Same as 454.calculix

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

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

You can also download the XML flags source by saving the following link:

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

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Tested with SPEC CPU2006 v1.2.  
Report generated on Thu Jul 24 12:41:13 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 6 August 2012.