



# SPEC® CFP2006 Result

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## Acer Incorporated

SPECfp®2006 = 46.1

## Altos R380 F2 (Intel Xeon E5-2603)

SPECfp\_base2006 = 44.6

CPU2006 license: 97

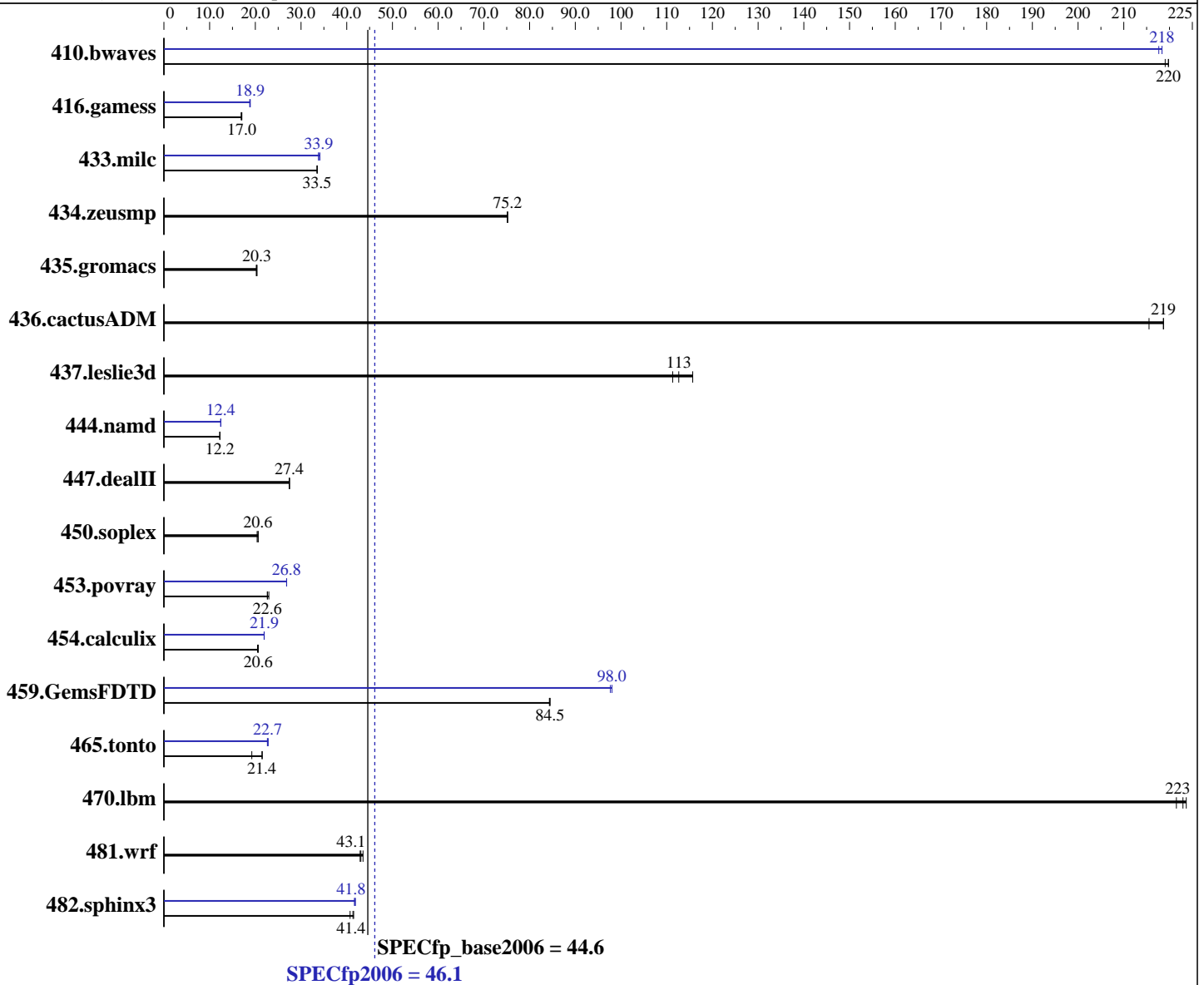
Test date: Mar-2013

Test sponsor: Acer Incorporated

Hardware Availability: Apr-2013

Tested by: Acer Incorporated

Software Availability: Jun-2012



### Hardware

CPU Name: Intel Xeon E5-2603  
 CPU Characteristics:  
 CPU MHz: 1800  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 2 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 6.3 (Santiago)  
 2.6.32-279.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: Yes  
 File System: ext4

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L3 Cache: 10 MB I+D on chip per chip  
Other Cache: None  
Memory: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)  
Disk Subsystem: 1 x 1 TB SATA, 7200 RPM  
Other Hardware: None

System State: Run level 3 (multi-user)  
Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other Software: None

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	61.8	220	<b>61.8</b>	<b>220</b>	62.0	219	62.4	218	62.2	218	<b>62.2</b>	<b>218</b>
416.gamess	<b>1149</b>	<b>17.0</b>	1159	16.9	1149	17.0	1043	18.8	1037	18.9	<b>1038</b>	<b>18.9</b>
433.milc	274	33.5	274	33.5	<b>274</b>	<b>33.5</b>	269	34.1	<b>271</b>	<b>33.9</b>	271	33.8
434.zeusmp	121	75.2	<b>121</b>	<b>75.2</b>	121	75.2	121	75.2	<b>121</b>	<b>75.2</b>	121	75.2
435.gromacs	350	20.4	<b>352</b>	<b>20.3</b>	353	20.2	350	20.4	<b>352</b>	<b>20.3</b>	353	20.2
436.cactusADM	54.6	219	<b>54.6</b>	<b>219</b>	55.4	216	54.6	219	<b>54.6</b>	<b>219</b>	55.4	216
437.leslie3d	<b>83.4</b>	<b>113</b>	84.4	111	81.2	116	<b>83.4</b>	<b>113</b>	84.4	111	81.2	116
444.namd	655	12.2	<b>655</b>	<b>12.2</b>	655	12.2	644	12.5	<b>645</b>	<b>12.4</b>	645	12.4
447.dealII	416	27.5	<b>417</b>	<b>27.4</b>	417	27.4	416	27.5	<b>417</b>	<b>27.4</b>	417	27.4
450.soplex	405	20.6	409	20.4	<b>405</b>	<b>20.6</b>	405	20.6	409	20.4	<b>405</b>	<b>20.6</b>
453.povray	232	23.0	235	22.6	<b>235</b>	<b>22.6</b>	198	26.8	198	26.9	<b>198</b>	<b>26.8</b>
454.calculix	<b>400</b>	<b>20.6</b>	400	20.6	403	20.5	376	22.0	<b>376</b>	<b>21.9</b>	376	21.9
459.GemsFDTD	126	84.5	126	84.3	<b>126</b>	<b>84.5</b>	109	97.7	<b>108</b>	<b>98.0</b>	108	98.0
465.tonto	457	21.5	<b>459</b>	<b>21.4</b>	512	19.2	435	22.6	<b>433</b>	<b>22.7</b>	431	22.8
470.lbm	62.0	222	61.4	224	<b>61.6</b>	<b>223</b>	62.0	222	61.4	224	<b>61.6</b>	<b>223</b>
481.wrf	<b>259</b>	<b>43.1</b>	256	43.6	260	42.9	<b>259</b>	<b>43.1</b>	256	43.6	260	42.9
482.sphinx3	469	41.5	<b>471</b>	<b>41.4</b>	478	40.7	<b>466</b>	<b>41.8</b>	468	41.7	465	41.9

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

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## Platform Notes

Sysinfo program /usr/cpu2006/config/sysinfo.rev6800  
\$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3  
running on altosr380f2 Wed Mar 20 10:51:42 2013

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 E5-2603 0 @ 1.80GHz  
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**Test date:** Mar-2013

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## Platform Notes (Continued)

```

2 "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  : 4
physical 0: cores 0 1 2 3
physical 1: cores 0 1 2 3
cache size : 10240 KB

From /proc/meminfo
MemTotal:      132113996 kB
HugePages_Total:    0
Hugepagesize:    2048 kB

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.3 (Santiago)

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
Linux altosr380f2 2.6.32-279.el6.x86_64 #1 SMP Wed Jun 13 18:24:36 EDT 2012
x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Mar 20 10:50

SPEC is set to: /usr/cpu2006
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/vg_altosr380f2-lv_root
                ext4      913G   73G  794G   9% /

Additional information from dmidecode:
Memory:
16x Hynix HMT31GR7CFR4C-PB 8 GB 1600 MHz 2 rank

(End of data from sysinfo program)

```

## General Notes

Environment variables set by runspec before the start of the run:

```

KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64"
OMP_NUM_THREADS = "8"

```

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

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## General Notes (Continued)

echo always > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled  
 runspec command invoked through numactl i.e.:  
 numactl --interleave=all runspec <etc>  
 Altos R360 F2 and Altos R380 F2 are electronically equivalent.  
 This result was measured on Altos R380 F2.

## 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.deall: -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 -parallel -opt-prefetch  
 -ansi-alias

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## Base Optimization Flags (Continued)

C++ benchmarks:

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

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch  
-ansi-alias

## Peak Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## Peak Portability Flags

Same as Base Portability Flags

## 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  
-ansi-alias

470.lbm: basepeak = yes

482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias  
-parallel

C++ benchmarks:

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## Peak Optimization Flags (Continued)

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: basepeak = yes

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 -ipo -O3 -no-prec-div -opt-prefetch -parallel  
 -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: basepeak = yes

459.GemsFDTD: -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 -opt-prefetch -parallel

465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
 -no-prec-div(pass 2) -prof-use(pass 2) -inline-calloc  
 -opt-malloc-options=3 -auto -unroll4

### Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

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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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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