



SPEC® CFP2006 Result

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Acer Incorporated

SPECfp®2006 = 65.7

Acer AR320 F2 (Xeon E3-1280 v2)

SPECfp_base2006 = 64.1

CPU2006 license: 97

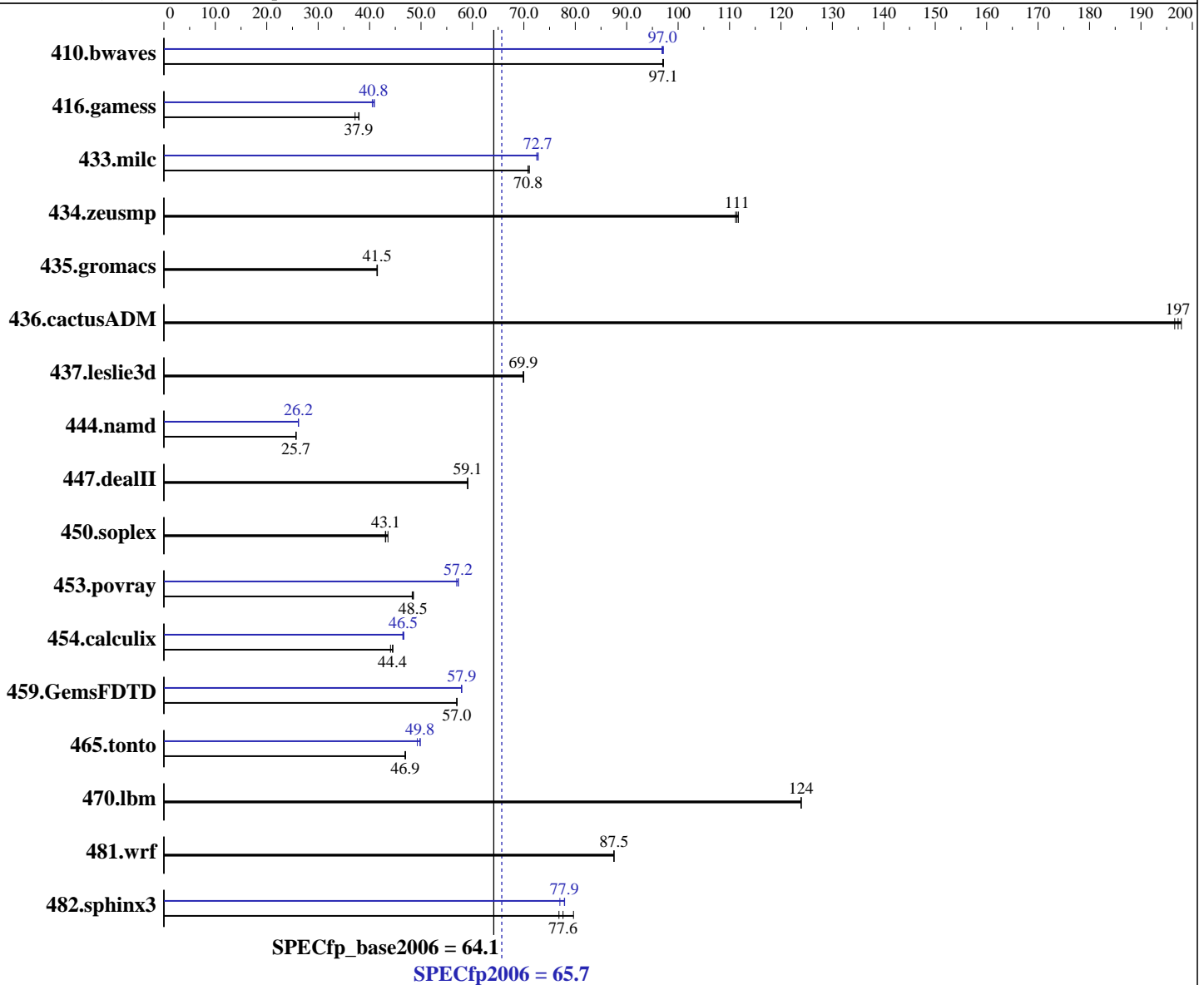
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: May-2012

Hardware Availability: Jan-2012

Software Availability: Dec-2011



Hardware

CPU Name: Intel Xeon E3-1280 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 4.00 GHz
 CPU MHz: 3600
 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

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Software

Operating System: Red Hat Enterprise Linux Server release 6.1 (Santiago)
 2.6.32-131.0.15.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: 8 MB I+D on chip per chip
Other Cache: None
Memory: 16 GB (2 x 8 GB 2Rx8 PC3-10600E-9,ECC)
Disk Subsystem: 1 x 640 GB 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	140	97.1	140	97.0	<u>140</u>	<u>97.1</u>	<u>140</u>	<u>97.0</u>	140	96.9	140	97.1
416.gamess	516	38.0	527	37.2	<u>517</u>	<u>37.9</u>	<u>480</u>	<u>40.8</u>	483	40.5	478	41.0
433.milc	<u>130</u>	<u>70.8</u>	129	71.1	130	70.8	<u>126</u>	<u>72.7</u>	126	72.8	127	72.5
434.zeusmp	81.5	112	81.9	111	<u>81.7</u>	<u>111</u>	81.5	112	81.9	111	<u>81.7</u>	<u>111</u>
435.gromacs	172	41.4	172	41.5	<u>172</u>	<u>41.5</u>	172	41.4	172	41.5	<u>172</u>	<u>41.5</u>
436.cactusADM	60.4	198	<u>60.6</u>	<u>197</u>	60.8	197	60.4	198	<u>60.6</u>	<u>197</u>	60.8	197
437.leslie3d	135	69.9	<u>135</u>	<u>69.9</u>	134	70.0	135	69.9	<u>135</u>	<u>69.9</u>	134	70.0
444.namd	312	25.7	<u>312</u>	<u>25.7</u>	312	25.7	<u>307</u>	<u>26.2</u>	307	26.1	306	26.2
447.dealII	194	59.0	<u>194</u>	<u>59.1</u>	194	59.1	194	59.0	<u>194</u>	<u>59.1</u>	194	59.1
450.soplex	<u>193</u>	<u>43.1</u>	194	43.1	191	43.6	<u>193</u>	<u>43.1</u>	194	43.1	191	43.6
453.povray	110	48.5	110	48.3	<u>110</u>	<u>48.5</u>	<u>93.0</u>	<u>57.2</u>	92.9	57.3	93.4	56.9
454.calculix	187	44.1	185	44.5	<u>186</u>	<u>44.4</u>	178	46.5	<u>177</u>	<u>46.5</u>	177	46.7
459.GemsFDTD	<u>186</u>	<u>57.0</u>	186	57.0	186	57.0	<u>183</u>	<u>57.9</u>	183	57.9	183	57.8
465.tonto	209	47.0	210	46.9	<u>210</u>	<u>46.9</u>	197	49.9	200	49.3	<u>198</u>	<u>49.8</u>
470.lbm	111	124	<u>111</u>	<u>124</u>	111	124	111	124	<u>111</u>	<u>124</u>	111	124
481.wrf	128	87.5	128	87.5	<u>128</u>	<u>87.5</u>	128	87.5	128	87.5	<u>128</u>	<u>87.5</u>
482.sphinx3	<u>251</u>	<u>77.6</u>	254	76.8	245	79.7	253	77.0	<u>250</u>	<u>77.9</u>	250	77.9

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 localhost.localdomain Mon May 21 01:55:20 2012

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 E3-1280 V2 @ 3.60GHz
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Platform Notes (Continued)

```

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:      16302672 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 May 21 01:53 last=5

SPEC is set to: /usr/cpu2006
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/VolGroup-lv_root
                ext4      50G   29G   18G   62% /

Additional information from dmidecode:
Memory:
  2x Hynix/Hyundai HMT41GU7MFR8A-H9 8 GB 1333 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 = "4"

```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL6.1
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled

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General Notes (Continued)

```
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>
```

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 -parallel -opt-prefetch
  -ansi-alias

C++ benchmarks:
  -xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias
```

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Base Optimization Flags (Continued)

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:

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`

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Peak Optimization Flags (Continued)

447.dealIII: 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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