



SPEC® CFP2006 Result

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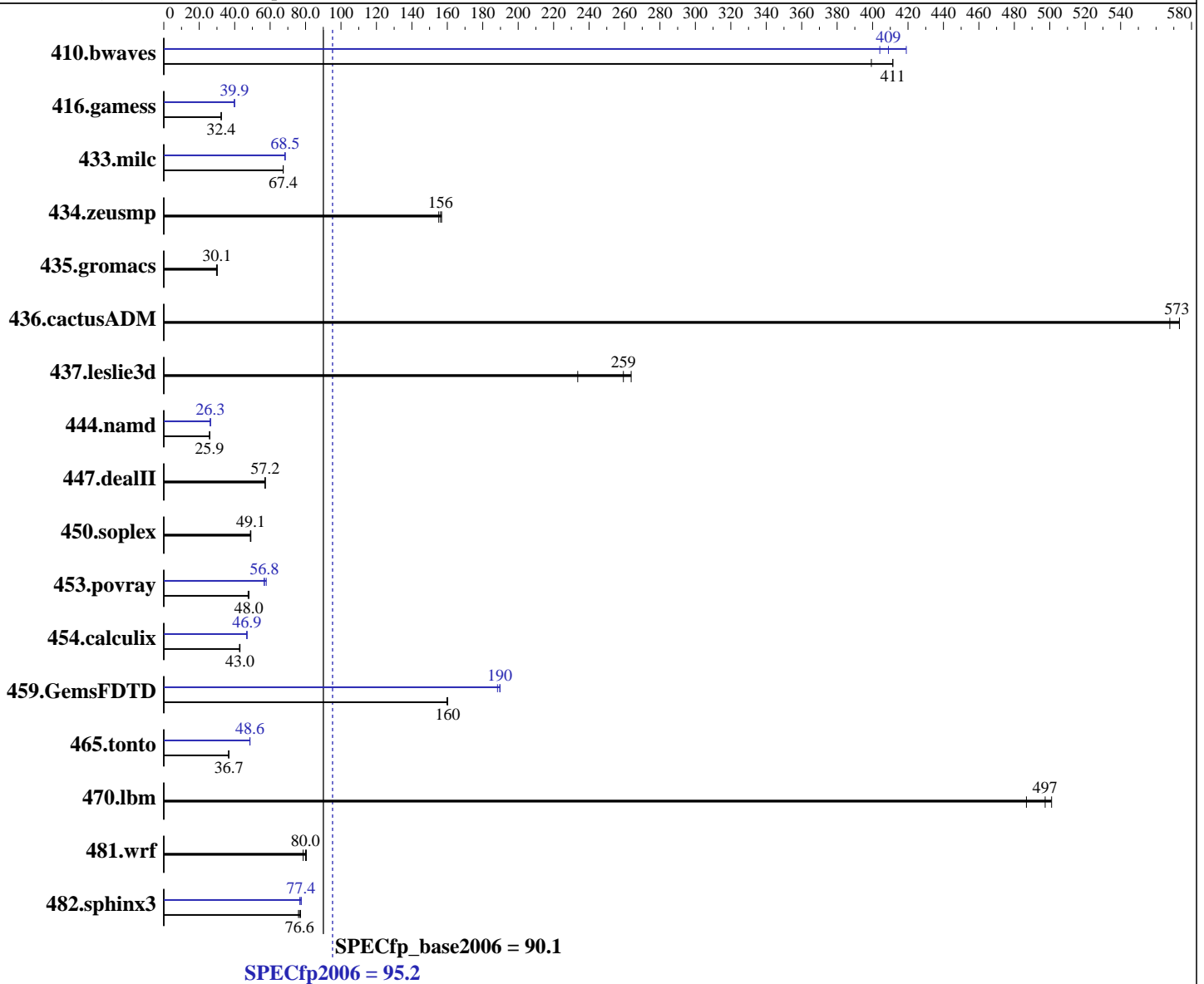
Acer Incorporated
Altos T350 F2 (Xeon E5-2690)

SPECfp®2006 = 95.2

SPECfp_base2006 = 90.1

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

Test date: Apr-2013
Hardware Availability: May-2013
Software Availability: Dec-2011



Hardware

CPU Name: Intel Xeon E5-2690
CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz: 2900
FPU: Integrated
CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core
CPU(s) orderable: 1,2 chips
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: 20 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 900 GB SAS, 10K 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	33.0	411	<u>33.0</u>	<u>411</u>	34.0	399	32.4	419	33.6	404	<u>33.2</u>	<u>409</u>
416.gamess	605	32.4	<u>604</u>	<u>32.4</u>	604	32.4	<u>491</u>	<u>39.9</u>	491	39.9	492	39.8
433.milc	136	67.3	<u>136</u>	<u>67.4</u>	136	67.4	<u>134</u>	<u>68.5</u>	134	68.5	134	68.3
434.zeusmp	<u>58.2</u>	<u>156</u>	58.0	157	58.6	155	<u>58.2</u>	<u>156</u>	58.0	157	58.6	155
435.gromacs	237	30.1	240	29.8	<u>237</u>	<u>30.1</u>	237	30.1	240	29.8	<u>237</u>	<u>30.1</u>
436.cactusADM	20.8	573	21.0	568	<u>20.8</u>	<u>573</u>	20.8	573	21.0	568	<u>20.8</u>	<u>573</u>
437.leslie3d	35.6	264	<u>36.2</u>	<u>259</u>	40.2	234	35.6	264	<u>36.2</u>	<u>259</u>	40.2	234
444.namd	310	25.9	<u>310</u>	<u>25.9</u>	310	25.9	305	26.3	<u>305</u>	<u>26.3</u>	305	26.3
447.dealII	200	57.3	200	57.1	<u>200</u>	<u>57.2</u>	200	57.3	200	57.1	<u>200</u>	<u>57.2</u>
450.soplex	171	48.8	170	49.1	<u>170</u>	<u>49.1</u>	171	48.8	170	49.1	<u>170</u>	<u>49.1</u>
453.povray	111	48.1	112	47.6	<u>111</u>	<u>48.0</u>	<u>93.7</u>	<u>56.8</u>	92.0	57.8	93.9	56.7
454.calculix	192	43.0	<u>192</u>	<u>43.0</u>	193	42.7	176	46.9	<u>176</u>	<u>46.9</u>	176	46.9
459.GemsFDTD	<u>66.2</u>	<u>160</u>	66.4	160	66.2	160	55.9	190	56.3	188	<u>55.9</u>	<u>190</u>
465.tonto	<u>268</u>	<u>36.7</u>	268	36.7	269	36.6	202	48.6	<u>202</u>	<u>48.6</u>	203	48.6
470.lbm	<u>27.6</u>	<u>497</u>	27.4	501	28.2	487	<u>27.6</u>	<u>497</u>	27.4	501	28.2	487
481.wrf	<u>140</u>	<u>80.0</u>	142	78.6	139	80.5	<u>140</u>	<u>80.0</u>	142	78.6	139	80.5
482.sphinx3	256	76.0	252	77.2	<u>254</u>	<u>76.6</u>	251	77.6	<u>252</u>	<u>77.4</u>	254	76.8

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 t350f2 Mon Apr 8 17:52:05 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 E5-2690 0 @ 2.90GHz
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Platform Notes (Continued)

```
2 "physical id"s (chips)
32 "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 : 8
siblings  : 16
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7
cache size : 20480 KB
```

```
From /proc/meminfo
MemTotal:      132113952 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

```
/usr/bin/lsc_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 t350f2 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 Apr 8 12:56
```

```
SPEC is set to: /usr/cpu2006
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sda3       ext4      700G  104G  560G  16% /
```

```
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,compact,1,0"
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64"
OMP_NUM_THREADS = "16"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
memory using RHEL5.5
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 files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Acer-Platform-Settings-V1.2-revA.20130423.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Acer-Platform-Settings-V1.2-revA.20130423.xml>



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