SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

ZTE

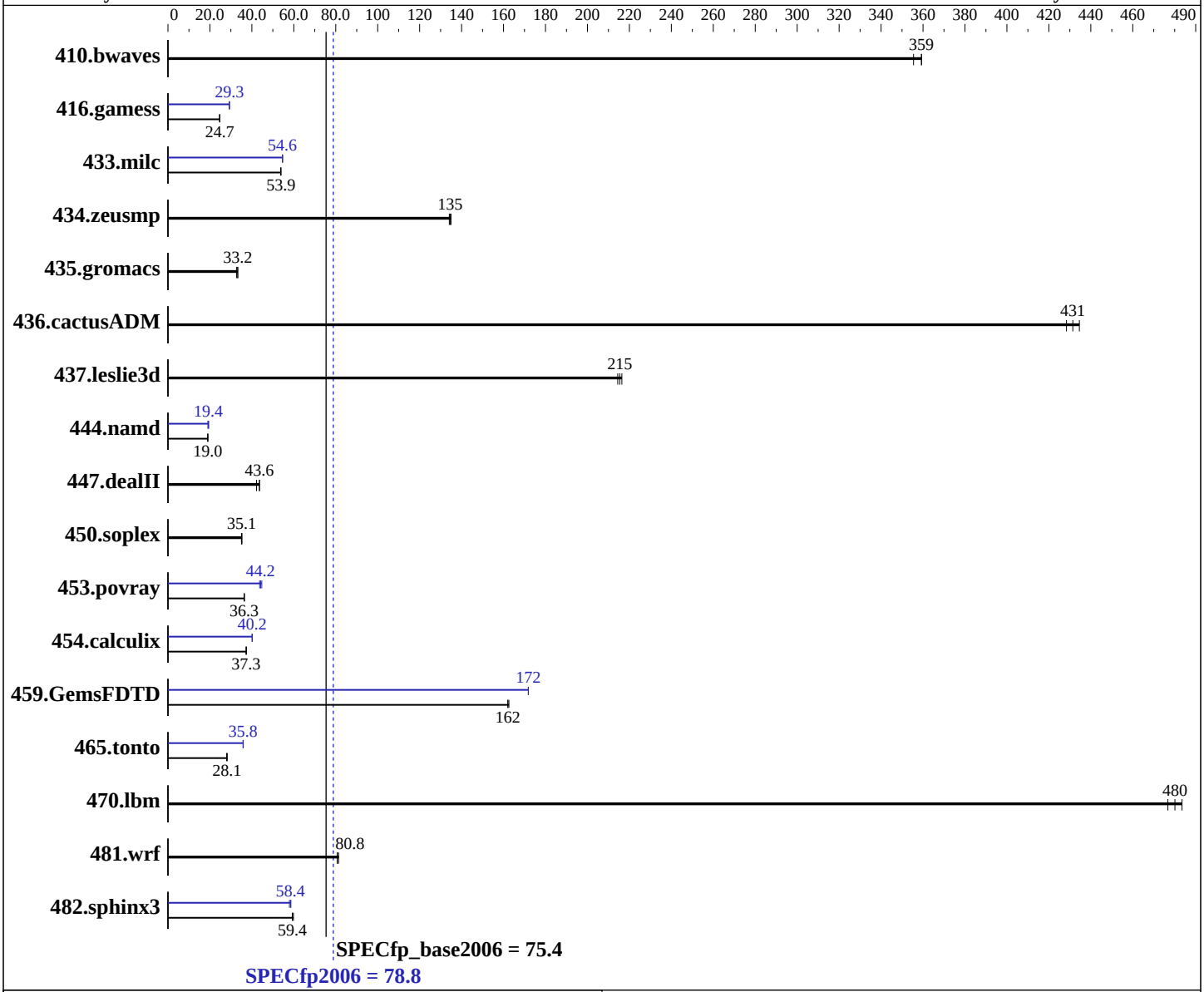
I8300 G2 (Intel Xeon E5-2650, 2.00 GHz)

SPECfp®2006 = 78.8

SPECfp_base2006 = 75.4

CPU2006 license: 3834
Test sponsor: ZTE
Tested by: ZTE

Test date: Dec-2013
Hardware Availability: Jun-2013
Software Availability: Oct-2013



Hardware

CPU Name:	Intel Xeon E5-2650
CPU Characteristics:	Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz:	2000
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 cores/chip, 2 threads/core
CPU(s) orderable:	1,2 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

Continued on next page

Software

Operating System:	Red Hat Enterprise Linux Server release 6.2 (Santiago) Kernel 2.6.32-220.el6.x86_64
Compiler:	C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux; Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux
Auto Parallel:	Yes
File System:	ext4

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

ZTE

I8300 G2 (Intel Xeon E5-2650, 2.00 GHz)

SPECfp2006 = 78.8

SPECfp_base2006 = 75.4

CPU2006 license: 3834
Test sponsor: ZTE
Tested by: ZTE

Test date: Dec-2013
Hardware Availability: Jun-2013
Software Availability: Oct-2013

L3 Cache:	20 MB I+D on chip per chip
Other Cache:	None
Memory:	128 GB (8 x 16 GB 2Rx4 PC3L-12800R-11, ECC)
Disk Subsystem:	2 x 300 GB, 10000 RPM SAS,RAID1
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	38.2	355	37.8	359	**37.8**	**359**	38.2	355	37.8	359	**37.8**	**359**
416.gamess	**794**	**24.7**	795	24.6	793	24.7	668	29.3	**669**	**29.3**	669	29.3
433.milc	171	53.7	170	53.9	**170**	**53.9**	**168**	**54.6**	168	54.6	168	54.6
434.zeusmp	**67.6**	**135**	67.4	135	67.8	134	**67.6**	**135**	67.4	135	67.8	134
435.gromacs	**215**	**33.2**	219	32.7	215	33.3	**215**	**33.2**	219	32.7	215	33.3
436.cactusADM	27.5	435	**27.7**	**431**	27.9	428	27.5	435	**27.7**	**431**	27.9	428
437.leslie3d	**43.6**	**215**	43.4	216	43.8	214	**43.6**	**215**	43.4	216	43.8	214
444.namd	**422**	**19.0**	422	19.0	422	19.0	422	19.0	414	19.4	**414**	**19.4**
447.dealII	**262**	**43.6**	271	42.2	262	43.6	**262**	**43.6**	271	42.2	262	43.6
450.soplex	**238**	**35.1**	236	35.3	238	35.0	**238**	**35.1**	236	35.3	238	35.0
453.povray	146	36.5	**146**	**36.3**	147	36.3	122	43.7	**120**	**44.2**	119	44.7
454.calculix	**221**	**37.3**	221	37.3	221	37.3	**205**	**40.2**	205	40.2	206	40.1
459.GemsFDTD	65.3	163	**65.5**	**162**	65.5	162	61.7	172	61.7	172	**61.7**	**172**
465.tonto	349	28.2	**350**	**28.1**	352	28.0	**275**	**35.8**	275	35.8	274	35.9
470.lbm	**28.6**	**480**	28.8	477	28.4	483	**28.6**	**480**	28.8	477	28.4	483
481.wrf	**138**	**80.8**	137	81.4	138	80.7	**138**	**80.8**	137	81.4	138	80.7
482.sphinx3	**328**	**59.4**	326	59.8	329	59.3	333	58.6	337	57.9	**334**	**58.4**

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

```
HT Enabled,C6 Enabled,Performance Mode,DCU
Disabled
 Sysinfo program /home/cpu2006-14.0/config/sysinfo.rev6818
 $Rev: 6818 $ $Date:: 2012-07-17 #$ 7195f14be9f4254ad3e2727f78b45679
 running on SPECCPU Sat Dec 14 00:15:33 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
```

Continued on next page

Platform Notes (Continued)

```
From /proc/cpuinfo
   model name : Intel(R) Xeon(R) CPU E5-2650 0 @ 2.00GHz
      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:       132135332 kB
   HugePages_Total:    2048
   Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.2 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux SPECCPU 2.6.32-220.el6.x86_64 #1 SMP Wed Nov 9 08:03:13 EST 2011 x86_64
   x86_64 x86_64 GNU/Linux

run-level 3 Dec 12 22:49

SPEC is set to: /home/cpu2006-14.0
   Filesystem     Type    Size  Used Avail Use% Mounted on
   /dev/sda3      ext4    273G   48G  212G  19% /

Additional information from dmidecode:
  Memory:
   8x   16 GB
   2x Dimm1_Manufacturer Dimm1_PartNum
   2x Dimm3_Manufacturer Dimm3_PartNum
   2x Dimm5_Manufacturer Dimm5_PartNum
   2x Dimm7_Manufacturer Dimm7_PartNum
   8x Micron 36KSF2G72PZ-1 16 GB 1600 MHz 1 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 = "/home/cpu2006-14.0/libs/32:/home/cpu2006-14.0/libs/64:/home/cpu2006-14.0/sh"
OMP_NUM_THREADS = "16"

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RedHat EL 6.4
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
 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 -parallel -opt-prefetch -ansi-alias`

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

Fortran benchmarks:
`-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch`

Benchmarks using both Fortran and C:
`-xAVX -ipo -O3 -no-prec-div -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) `-auto-ilp32` `-ansi-alias`

470.lbm: `basepeak = yes`

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

Continued on next page

Peak Optimization Flags (Continued)

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: 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: basepeak = yes

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-

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-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/ZTE-I8300-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-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/ZTE-I8300-Settings-V1.2-revA.xml

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
Report generated on Fri Jul 25 00:01:04 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 9 May 2014.