SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

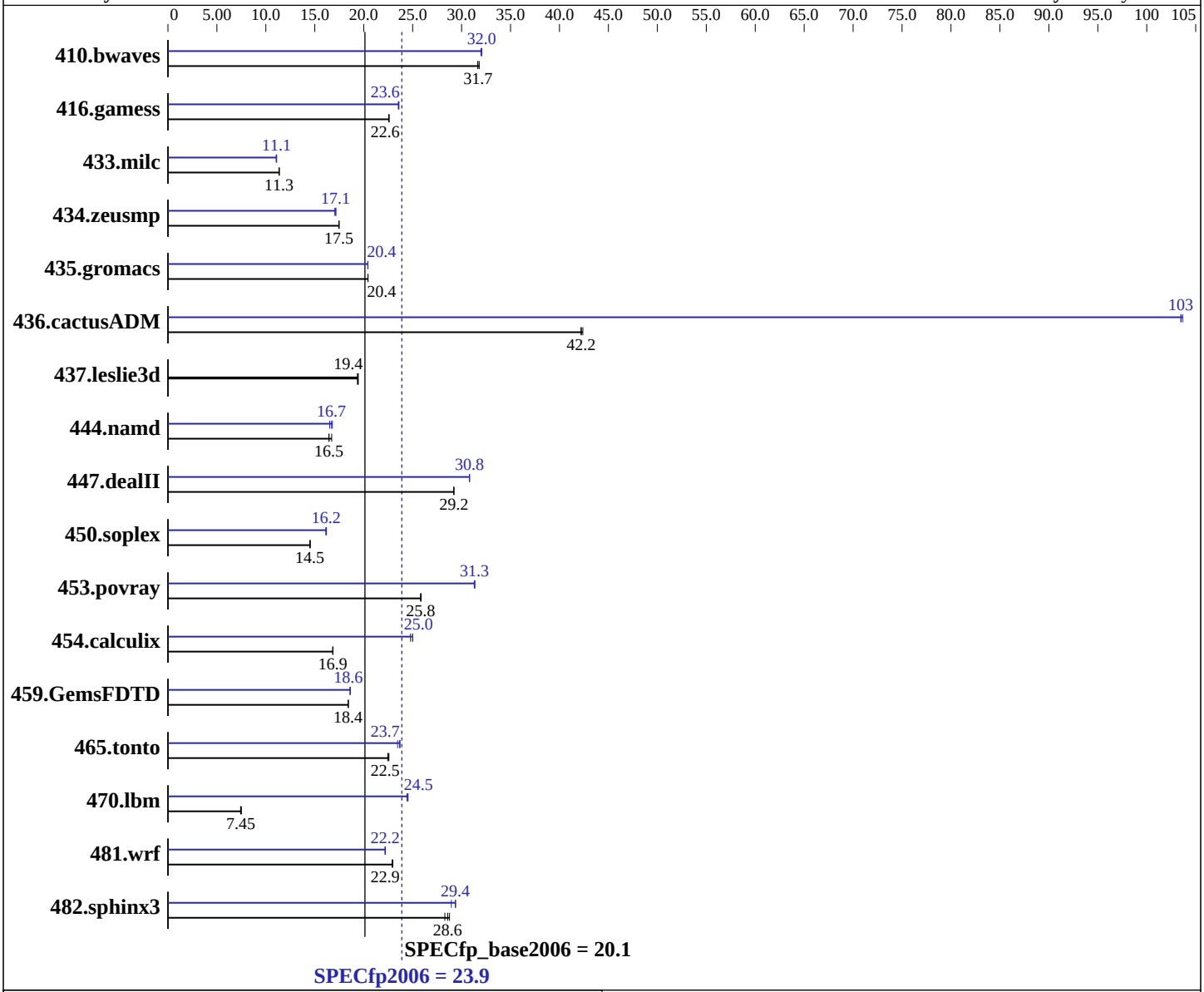
PowerEdge M600 (Intel Xeon X5460, 3.16 GHz)

SPECfp®2006 = 23.9

SPECfp_base2006 = 20.1

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Aug-2008
Hardware Availability: Jan-2008
Software Availability: May-2008



Hardware

CPU Name:	Intel Xeon X5460
CPU Characteristics:	
CPU MHz:	3166
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	12 MB I+D on chip per chip, 6 MB shared / 2 cores

Continued on next page

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16-60.0.21-smp
Compiler:	Intel C++ and Fortran Compiler 10.1 for Linux Build 20080312 Package ID: l_cc_p_10.1.015, l_fc_p_10.1.015
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge M600 (Intel Xeon X5460, 3.16 GHz)

SPECfp2006 = 23.9

SPECfp_base2006 = 20.1

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Aug-2008
Hardware Availability: Jan-2008
Software Availability: May-2008

L3 Cache: None
Other Cache: None
Memory: 16 GB (4x4 GB, DDR2-667 MHz, CL5, Reg, Dual Rank)
Disk Subsystem: 1 x 80 GB SATA 5400 RPM
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	429	31.6	427	31.8	**429**	**31.7**	**424**	**32.0**	424	32.1	425	32.0
416.gamess	**867**	**22.6**	868	22.5	867	22.6	830	23.6	**830**	**23.6**	832	23.5
433.milc	809	11.3	**809**	**11.3**	806	11.4	**828**	**11.1**	831	11.0	827	11.1
434.zeusmp	521	17.5	**521**	**17.5**	520	17.5	531	17.2	**531**	**17.1**	534	17.0
435.gromacs	349	20.4	349	20.4	**349**	**20.4**	**350**	**20.4**	350	20.4	350	20.4
436.cactusADM	282	42.4	**283**	**42.2**	283	42.2	**115**	**103**	115	103	115	104
437.leslie3d	485	19.4	**485**	**19.4**	483	19.4	485	19.4	**485**	**19.4**	483	19.4
444.namd	479	16.7	**487**	**16.5**	488	16.4	477	16.8	**480**	**16.7**	485	16.5
447.dealII	**392**	**29.2**	392	29.2	392	29.2	371	30.8	**371**	**30.8**	371	30.8
450.soplex	**575**	**14.5**	574	14.5	575	14.5	**516**	**16.2**	515	16.2	517	16.1
453.povray	**206**	**25.8**	206	25.8	206	25.9	170	31.4	170	31.3	**170**	**31.3**
454.calculix	490	16.8	**489**	**16.9**	489	16.9	333	24.8	**330**	**25.0**	330	25.0
459.GemsFDTD	576	18.4	**576**	**18.4**	576	18.4	570	18.6	**570**	**18.6**	570	18.6
465.tonto	436	22.6	**437**	**22.5**	438	22.5	419	23.5	415	23.7	**416**	**23.7**
470.lbm	1852	7.42	**1845**	**7.45**	1831	7.50	560	24.5	**561**	**24.5**	563	24.4
481.wrf	488	22.9	**487**	**22.9**	486	23.0	**503**	**22.2**	503	22.2	504	22.2
482.sphinx3	678	28.8	689	28.3	**682**	**28.6**	663	29.4	673	29.0	**664**	**29.4**

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

Operating System Notes

'ulimit -s unlimited' was used to set the stack size to unlimited prior to run

General Notes

All benchmarks compiled in 64-bit mode except 450.soplex,
470.lbm and 482.sphinx3, at peak, are compiled in 32-bit mode
OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to 200M

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

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:
-fast -parallel

C++ benchmarks:
-fast -parallel

Fortran benchmarks:
-fast -parallel

Benchmarks using both Fortran and C:
-fast -parallel

Peak Compiler Invocation

C benchmarks (except as noted below):
`/opt/intel/cc/10.1.015/bin/icc -L/opt/intel/cc/10.1.015/lib -I/opt/intel/cc/10.1.015/include`

433.milc: `icc`

C++ benchmarks (except as noted below):
`icpc`

450.soplex: `/opt/intel/cc/10.1.015/bin/icpc -L/opt/intel/cc/10.1.015/lib -I/opt/intel/cc/10.1.015/include`

Fortran benchmarks:
`ifort`

Benchmarks using both Fortran and C:
`icc ifort`

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`
459.GemsFDTD: `-DSPEC_CPU_LP64`
465.tonto: `-DSPEC_CPU_LP64`
481.wrf: `-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

433.milc: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -fno-alias -auto-ilp32`

470.lbm: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2 -scalar-rep- -prefetch -opt-malloc-options=3`

Continued on next page

Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias -auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast -opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch -parallel

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: basepeak = yes

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0 -prefetch -parallel

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch -auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -parallel -prefetch -auto-ilp32

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic10.1-fp-linux64-revD.20090713.html
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.07.html

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

`http://www.spec.org/cpu2006/flags/Intel-ic10.1-fp-linux64-revD.20090713.xml`
`http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.07.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 v1.1.
Report generated on Tue Jul 22 19:30:12 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 19 August 2008.