



SPEC[®] CFP2006 Result

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Dell Inc.

SPECfp[®]_rate2006 = 48.1

PowerEdge 2950 (Intel Xeon 5160, 3.00 GHz)

SPECfp_rate_base2006 = 44.5

CPU2006 license: 55

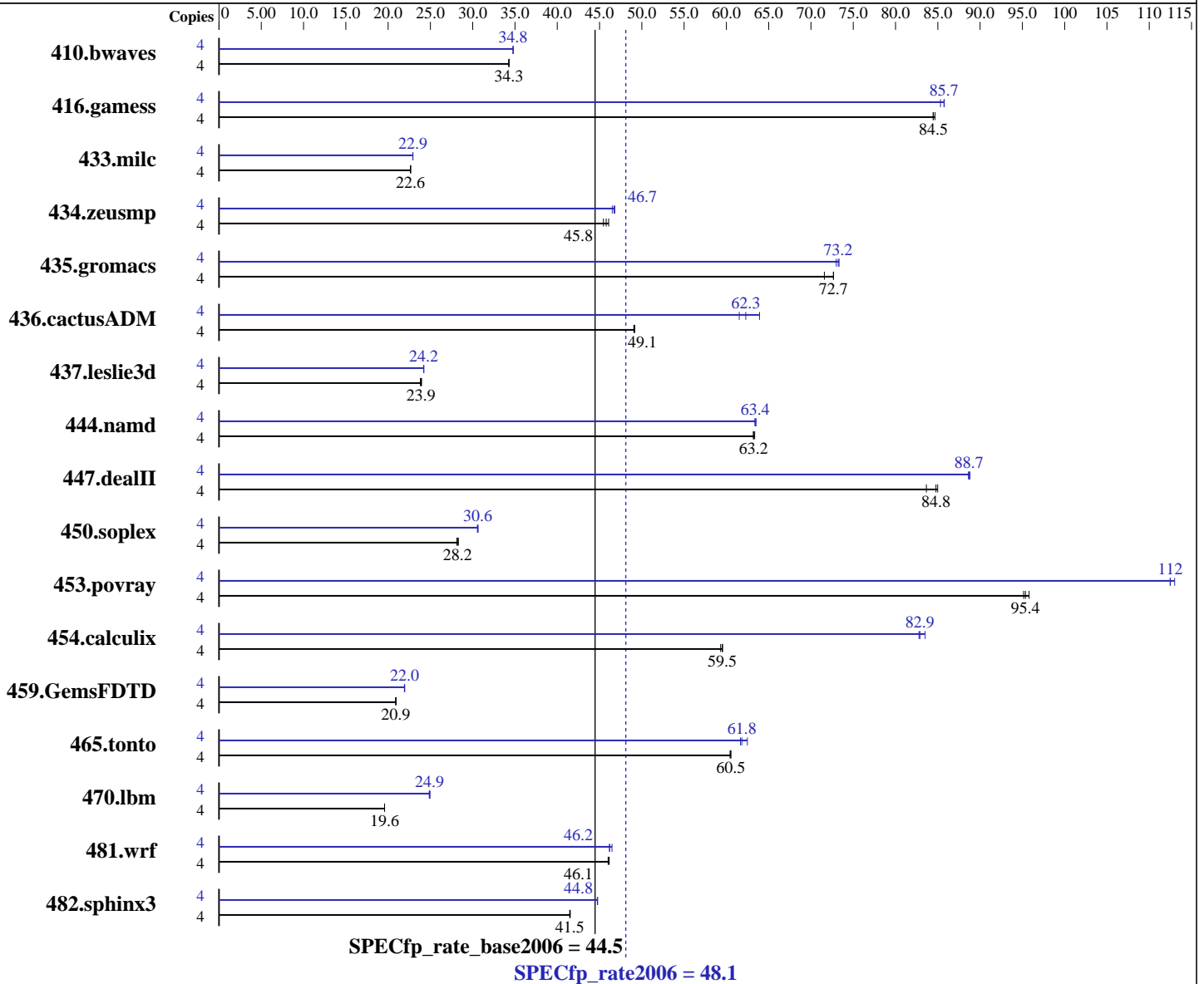
Test date: Sep-2007

Test sponsor: Dell Inc.

Hardware Availability: Dec-2006

Tested by: Dell Inc.

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon 5160
 CPU Characteristics: 1333 MHz system bus
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 4 MB I+D on chip per chip

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Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
 Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1 Build 20070725
 Auto Parallel: No
 File System: ReiserFS
 System State: Default
 Base Pointers: 64-bit

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L3 Cache: None
Other Cache: None
Memory: 8 GB (8x1 GB 667 MHz ECC DDR2 FB-DIMM)
Disk Subsystem: 2 x 36 GB SAS 10k RPM
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1586	34.3	1585	34.3	1586	34.3	4	1563	34.8	1563	34.8	1563	34.8
416.gamess	4	925	84.7	927	84.4	927	84.5	4	914	85.7	918	85.3	913	85.8
433.milc	4	1622	22.6	1620	22.7	1622	22.6	4	1602	22.9	1601	22.9	1601	22.9
434.zeusmp	4	795	45.8	790	46.1	801	45.5	4	779	46.7	778	46.8	783	46.5
435.gromacs	4	393	72.7	393	72.7	399	71.6	4	390	73.2	390	73.3	391	73.0
436.cactusADM	4	974	49.1	972	49.2	974	49.1	4	777	61.5	748	63.9	767	62.3
437.leslie3d	4	1569	24.0	1574	23.9	1579	23.8	4	1552	24.2	1553	24.2	1554	24.2
444.namd	4	508	63.2	506	63.3	507	63.2	4	505	63.5	506	63.4	506	63.4
447.dealII	4	547	83.6	538	85.0	540	84.8	4	516	88.7	515	88.8	516	88.6
450.soplex	4	1178	28.3	1186	28.1	1183	28.2	4	1092	30.6	1090	30.6	1089	30.6
453.povray	4	222	95.8	224	95.2	223	95.4	4	189	112	188	113	189	112
454.calculix	4	555	59.5	554	59.6	556	59.3	4	395	83.5	399	82.8	398	82.9
459.GemsFDTD	4	2031	20.9	2029	20.9	2028	20.9	4	1936	21.9	1933	22.0	1933	22.0
465.tonto	4	650	60.5	651	60.4	650	60.5	4	630	62.5	638	61.7	637	61.8
470.lbm	4	2807	19.6	2807	19.6	2807	19.6	4	2203	25.0	2206	24.9	2211	24.9
481.wrf	4	968	46.1	971	46.0	969	46.1	4	968	46.2	961	46.5	968	46.2
482.sphinx3	4	1879	41.5	1877	41.5	1879	41.5	4	1743	44.7	1741	44.8	1742	44.8

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

Compiler Invocation Notes

OMP_NUM_THREADS set to number of cores
KMP_STACK_SIZE set to 64M
KMP_AFFINITY set to physical,0

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'/usr/bin/taskset' used to bind processes to CPUs



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Platform Notes

BIOS Settings:

Adjacent Cache Line Prefetch = Disabled (default Enabled)

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

C++ benchmarks:

-fast

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Base Optimization Flags (Continued)

Fortran benchmarks:

-fast

Benchmarks using both Fortran and C:

-fast

Peak Compiler Invocation

C benchmarks (except as noted below):

/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include

433.milc: icc

C++ benchmarks (except as noted below):

icpc

450.soplex: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icpc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include

Fortran benchmarks (except as noted below):

ifort

437.leslie3d: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/ifort
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include

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
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

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Peak Portability Flags (Continued)

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

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

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

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

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

Benchmarks using both Fortran and C:

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Peak Optimization Flags (Continued)

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 -auto-ilp32

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

481.wrf: -fast -auto-ilp32

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.13.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.13.xml>

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For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 14:29:46 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 27 November 2007.