



SPEC[®] CFP2006 Result

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Dell Inc.

SPECfp[®]_rate2006 = 52.6

PowerEdge M600 (Intel Xeon X5260, 3.33 GHz)

SPECfp_rate_base2006 = 47.8

CPU2006 license: 55

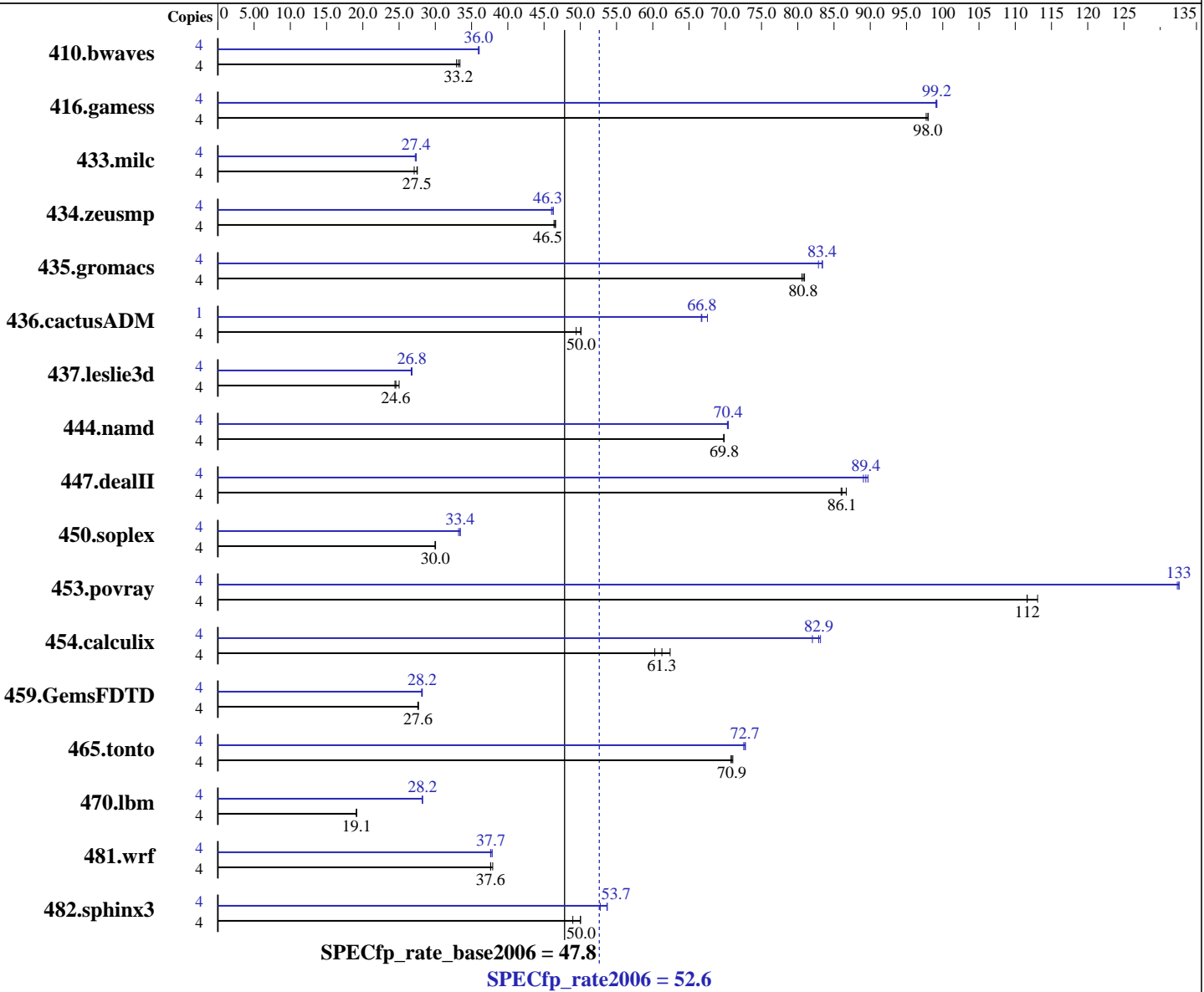
Test date: Feb-2008

Test sponsor: Dell Inc.

Hardware Availability: Jan-2008

Tested by: Dell Inc.

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon X5260
 CPU Characteristics: 1333 MHz system bus
 CPU MHz: 3333
 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: 6 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 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008, l_fc_p_10.1.008
 Auto Parallel: Yes
 File System: ReiserFS
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit

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L3 Cache: None
Other Cache: None
Memory: 16 GB (4 x 4 GB 667 MHz ECC CL5 FB-DIMM)
Disk Subsystem: 1 x 80 GB 7200 RPM SATA
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	1651	32.9	<u>1638</u>	<u>33.2</u>	1627	33.4	4	1508	36.1	1512	35.9	<u>1511</u>	<u>36.0</u>
416.gamess	4	802	97.7	799	98.0	<u>799</u>	<u>98.0</u>	4	791	99.1	<u>790</u>	<u>99.2</u>	790	99.2
433.milc	4	1356	27.1	1334	27.5	<u>1337</u>	<u>27.5</u>	4	1342	27.4	<u>1342</u>	<u>27.4</u>	1349	27.2
434.zeusmp	4	785	46.4	<u>783</u>	<u>46.5</u>	781	46.6	4	787	46.3	791	46.0	<u>787</u>	<u>46.3</u>
435.gromacs	4	<u>354</u>	<u>80.8</u>	355	80.6	353	80.9	4	<u>343</u>	<u>83.4</u>	345	82.9	342	83.4
436.cactusADM	4	967	49.4	<u>955</u>	<u>50.0</u>	954	50.1	1	<u>179</u>	<u>66.8</u>	179	66.7	177	67.5
437.leslie3d	4	1539	24.4	<u>1531</u>	<u>24.6</u>	1504	25.0	4	1404	26.8	<u>1405</u>	<u>26.8</u>	1409	26.7
444.namd	4	460	69.8	459	69.9	<u>459</u>	<u>69.8</u>	4	456	70.3	<u>456</u>	<u>70.4</u>	456	70.4
447.dealII	4	532	86.0	528	86.7	<u>532</u>	<u>86.1</u>	4	<u>512</u>	<u>89.4</u>	510	89.7	514	89.1
450.soplex	4	1113	30.0	<u>1112</u>	<u>30.0</u>	1111	30.0	4	<u>998</u>	<u>33.4</u>	1005	33.2	998	33.4
453.povray	4	<u>191</u>	<u>112</u>	191	112	188	113	4	161	132	<u>161</u>	<u>133</u>	160	133
454.calculix	4	<u>539</u>	<u>61.3</u>	529	62.4	547	60.3	4	402	82.0	<u>398</u>	<u>82.9</u>	397	83.1
459.GemsFDTD	4	1538	27.6	<u>1536</u>	<u>27.6</u>	1533	27.7	4	1505	28.2	1510	28.1	<u>1505</u>	<u>28.2</u>
465.tonto	4	556	70.8	554	71.0	<u>555</u>	<u>70.9</u>	4	541	72.8	<u>541</u>	<u>72.7</u>	543	72.5
470.lbm	4	2878	19.1	<u>2872</u>	<u>19.1</u>	2872	19.1	4	<u>1948</u>	<u>28.2</u>	1948	28.2	1947	28.2
481.wrf	4	<u>1187</u>	<u>37.6</u>	1178	37.9	1187	37.6	4	<u>1186</u>	<u>37.7</u>	1180	37.8	1188	37.6
482.sphinx3	4	1558	50.0	<u>1559</u>	<u>50.0</u>	1592	49.0	4	<u>1453</u>	<u>53.7</u>	1451	53.7	1478	52.8

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)

Hardware Prefetcher = 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):

/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include

433.milc: icc

C++ benchmarks (except as noted below):

icpc

450.soplex: /opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include

Fortran benchmarks (except as noted below):

ifort

437.leslie3d: /opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib
-I/opt/intel/fc/10.1.008/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
465.tonto: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX



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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:

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

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Peak Optimization Flags (Continued)

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.20090713.03.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.20090713.03.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 18:18:39 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 15 April 2008.