



SPEC® CFP2006 Result

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Dell Inc.

SPECfp®_rate2006 = 66.3

PowerEdge 2950 III (Intel Xeon E5410, 2.33 GHz)

SPECfp_rate_base2006 = 60.3

CPU2006 license: 55

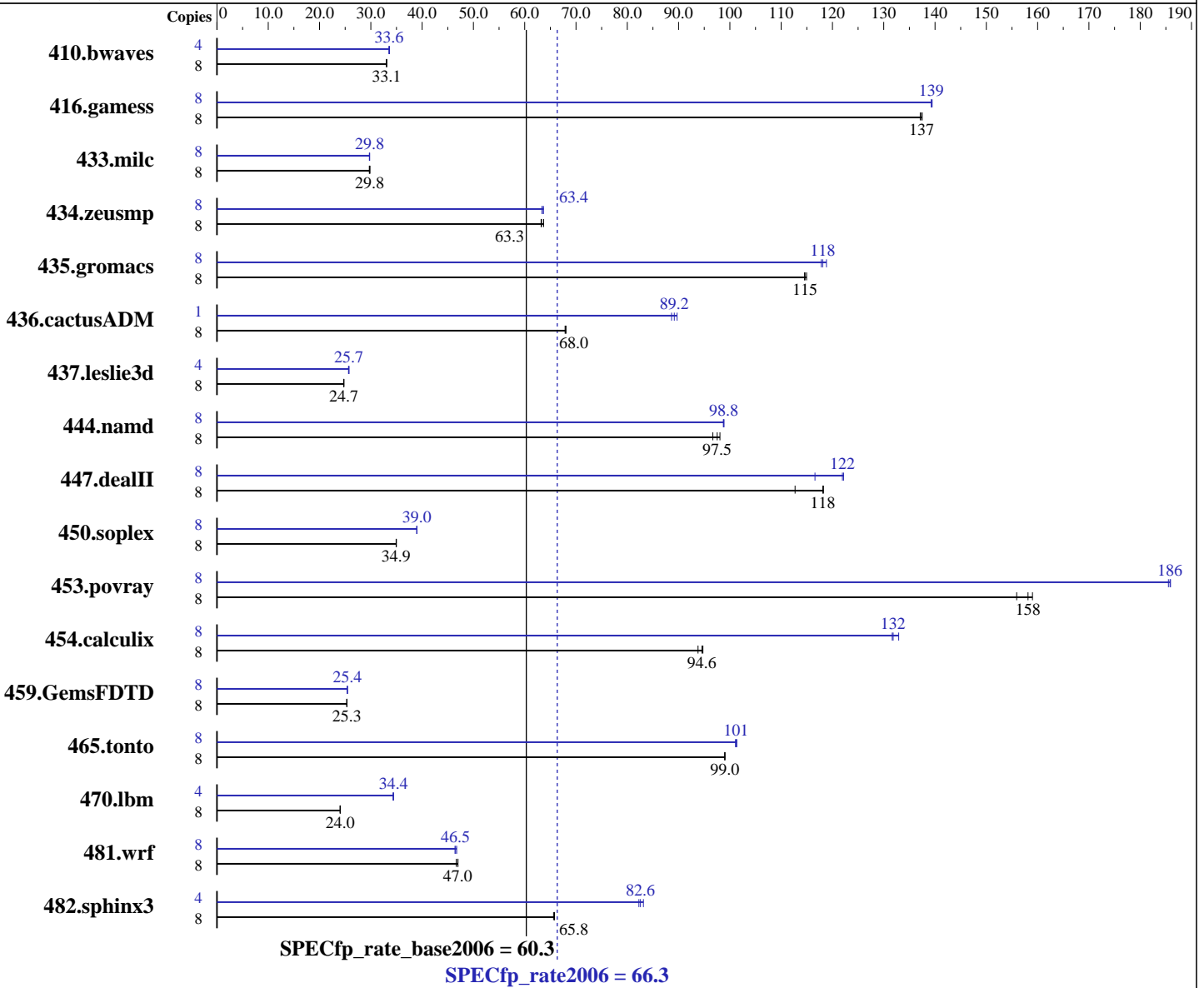
Test date: Nov-2007

Test sponsor: Dell Inc.

Hardware Availability: Nov-2007

Tested by: Dell Inc.

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5410
 CPU Characteristics: 1333 MHz system bus
 CPU MHz: 2333
 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

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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: Multi-user, run level 3
 Base Pointers: 64-bit

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB 667 MHz ECC CL5 FB-DIMM)
Disk Subsystem: 1 x 73 GB SAS 15k 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	8	3289	33.1	3286	33.1	<u>3289</u>	<u>33.1</u>	4	<u>1620</u>	<u>33.6</u>	1621	33.5	1616	33.6
416.gamess	8	<u>1140</u>	<u>137</u>	1142	137	1139	137	8	1125	139	1123	139	<u>1125</u>	<u>139</u>
433.milc	8	2462	29.8	2472	29.7	<u>2467</u>	<u>29.8</u>	8	<u>2468</u>	<u>29.8</u>	2467	29.8	2472	29.7
434.zeusmp	8	1152	63.2	1143	63.7	<u>1150</u>	<u>63.3</u>	8	<u>1148</u>	<u>63.4</u>	1149	63.4	1143	63.7
435.gromacs	8	497	115	499	115	<u>498</u>	<u>115</u>	8	<u>484</u>	<u>118</u>	481	119	485	118
436.cactusADM	8	1405	68.0	<u>1406</u>	<u>68.0</u>	1409	67.9	1	<u>134</u>	<u>89.2</u>	135	88.6	133	89.7
437.leslie3d	8	3036	24.8	3045	24.7	<u>3041</u>	<u>24.7</u>	4	1461	25.7	1466	25.6	<u>1462</u>	<u>25.7</u>
444.namd	8	654	98.1	664	96.7	<u>658</u>	<u>97.5</u>	8	<u>649</u>	<u>98.8</u>	649	98.9	650	98.7
447.dealII	8	812	113	774	118	<u>775</u>	<u>118</u>	8	<u>750</u>	<u>122</u>	749	122	785	117
450.soplex	8	1910	34.9	<u>1910</u>	<u>34.9</u>	1907	35.0	8	1712	39.0	<u>1712</u>	<u>39.0</u>	1712	39.0
453.povray	8	<u>269</u>	<u>158</u>	273	156	268	159	8	<u>229</u>	<u>186</u>	229	186	229	186
454.calculix	8	<u>698</u>	<u>94.6</u>	697	94.7	704	93.8	8	497	133	501	132	<u>501</u>	<u>132</u>
459.GemsFDTD	8	3353	25.3	3350	25.3	<u>3352</u>	<u>25.3</u>	8	3344	25.4	3334	25.5	<u>3340</u>	<u>25.4</u>
465.tonto	8	795	99.0	<u>795</u>	<u>99.0</u>	795	99.0	8	779	101	<u>778</u>	<u>101</u>	777	101
470.lbm	8	<u>4574</u>	<u>24.0</u>	4573	24.0	4576	24.0	4	<u>1597</u>	<u>34.4</u>	1597	34.4	1601	34.3
481.wrf	8	1916	46.6	1902	47.0	<u>1903</u>	<u>47.0</u>	8	1912	46.7	1925	46.4	<u>1921</u>	<u>46.5</u>
482.sphinx3	8	2369	65.8	<u>2370</u>	<u>65.8</u>	2376	65.6	4	938	83.1	<u>944</u>	<u>82.6</u>	948	82.3

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.20090714.11.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.20090714.11.xml>

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

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