



SPEC® CFP2006 Result

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Dell Inc.

SPECfp®_rate2006 = 54.1

Dell Precision R5400 (Intel X5270, 3.50 GHz)

SPECfp_rate_base2006 = 49.8

CPU2006 license: 55

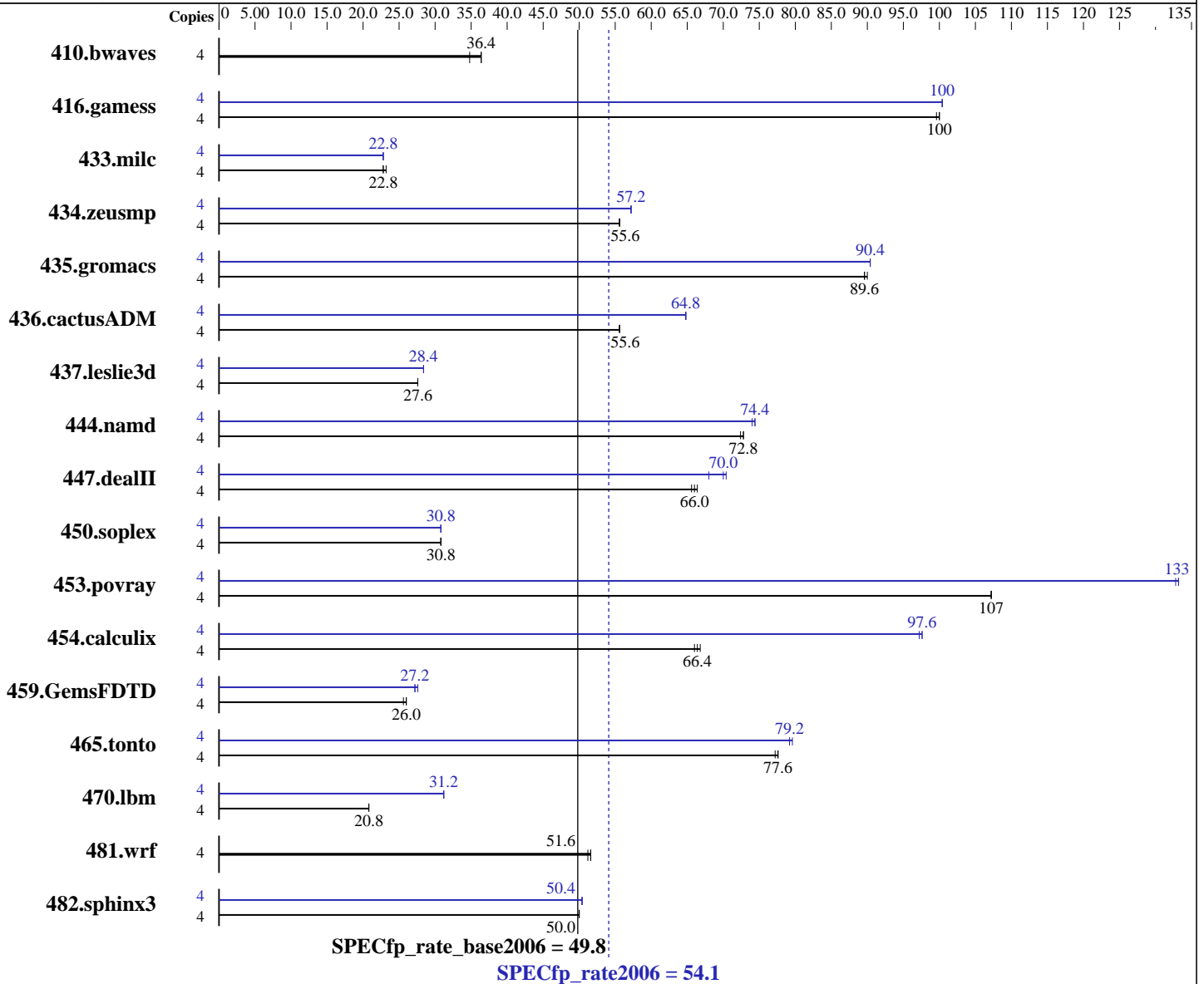
Test date: Sep-2008

Test sponsor: Dell Inc.

Hardware Availability: Oct-2008

Tested by: Dell Inc.

Software Availability: Mar-2008



Hardware

CPU Name: Intel Xeon X5270
 CPU Characteristics: 1333 MHz Bus Speed
 CPU MHz: 3500
 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: Windows Vista Business SP1 (64-bit)
 Compiler: Intel C++ Compiler for Intel 64, Version 10.1
 Build 20080312 Package ID: w_cc_p_10.1.021
 Intel Visual Fortran Compiler for Intel 64, Version 10.1
 Build 20080312 Package ID: w_fc_p_10.1.021
 Microsoft Visual Studio 2005 SP1

Auto Parallel: No
 File System: NTFS

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L3 Cache: None
Other Cache: None
Memory: 16 GB (4x4 GB 667 MHz CL5 FB-DIMM)
Disk Subsystem: 1 x 320 GB SATA 7200 RPM
Other Hardware: None

System State: Default
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: MicroQuill SmartHeap Library 8.1 for x64

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1559	34.8	1496	36.4	<u>1501</u>	<u>36.4</u>	4	1559	34.8	1496	36.4	<u>1501</u>	<u>36.4</u>
416.gamess	4	<u>785</u>	<u>100</u>	784	100	786	99.6	4	779	100	779	100	<u>779</u>	<u>100</u>
433.milc	4	<u>1597</u>	<u>22.8</u>	1596	23.2	1599	22.8	4	1613	22.8	1620	22.8	<u>1620</u>	<u>22.8</u>
434.zeusmp	4	655	55.6	<u>654</u>	<u>55.6</u>	653	55.6	4	635	57.2	637	57.2	<u>636</u>	<u>57.2</u>
435.gromacs	4	318	90.0	319	89.6	<u>318</u>	<u>89.6</u>	4	316	90.4	316	90.4	<u>316</u>	<u>90.4</u>
436.cactusADM	4	<u>859</u>	<u>55.6</u>	858	55.6	860	55.6	4	<u>739</u>	<u>64.8</u>	740	64.8	738	64.8
437.leslie3d	4	<u>1362</u>	<u>27.6</u>	1362	27.6	1360	27.6	4	<u>1326</u>	<u>28.4</u>	1321	28.4	1327	28.4
444.namd	4	442	72.8	442	72.4	<u>442</u>	<u>72.8</u>	4	433	74.0	<u>432</u>	<u>74.4</u>	432	74.4
447.dealII	4	691	66.4	697	65.6	<u>693</u>	<u>66.0</u>	4	672	68.0	<u>654</u>	<u>70.0</u>	651	70.4
450.soplex	4	<u>1088</u>	<u>30.8</u>	1086	30.8	1090	30.8	4	1084	30.8	<u>1083</u>	<u>30.8</u>	1080	30.8
453.povray	4	198	107	<u>198</u>	<u>107</u>	199	107	4	160	133	160	133	<u>160</u>	<u>133</u>
454.calculix	4	501	66.0	<u>496</u>	<u>66.4</u>	495	66.8	4	<u>338</u>	<u>97.6</u>	338	97.6	340	97.2
459.GemsFDTD	4	1646	25.6	<u>1639</u>	<u>26.0</u>	1637	26.0	4	1547	27.6	<u>1554</u>	<u>27.2</u>	1556	27.2
465.tonto	4	508	77.6	509	77.2	<u>509</u>	<u>77.6</u>	4	496	79.6	497	79.2	<u>497</u>	<u>79.2</u>
470.lbm	4	2632	20.8	<u>2634</u>	<u>20.8</u>	2635	20.8	4	<u>1770</u>	<u>31.2</u>	1772	31.2	1762	31.2
481.wrf	4	863	51.6	872	51.2	<u>865</u>	<u>51.6</u>	4	863	51.6	872	51.2	<u>865</u>	<u>51.6</u>
482.sphinx3	4	<u>1558</u>	<u>50.0</u>	1556	50.0	1559	50.0	4	1546	50.4	<u>1542</u>	<u>50.4</u>	1541	50.4

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

General Notes

Binaries were built on Windows Vista Ultimate (64-bit)

BIOS Settings

Adjacent Cache Line Prefetch set to ON

Base Compiler Invocation

C benchmarks:
icl -Qstd=c99

C++ benchmarks:
icl

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Base Compiler Invocation (Continued)

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qstd=c99 ifort

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64
 416.gamess: -DSPEC_CPU_P64
 433.milc: -DSPEC_CPU_P64
 434.zeusmp: -DSPEC_CPU_P64
 435.gromacs: -DSPEC_CPU_P64
 436.cactusADM: -DSPEC_CPU_P64 -Qlowercase /assume:underscore
 437.leslie3d: -DSPEC_CPU_P64
 444.namd: -DSPEC_CPU_P64 /TP
 447.dealII: -DSPEC_CPU_P64 -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
 450.soplex: -DSPEC_CPU_P64
 453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
 454.calculix: -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER -Qlowercase
 459.GemsFDTD: -DSPEC_CPU_P64
 465.tonto: -DSPEC_CPU_P64
 470.lbm: -DSPEC_CPU_P64
 481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
 482.sphinx3: -DSPEC_CPU_P64

Base Optimization Flags

C benchmarks:
-fast -Qauto-ilp32 /F512000000 -link /FORCE:MULTIPLE

C++ benchmarks:
-fast -Qauto-ilp32 -Qcxx_features /F512000000 shlw64m.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:
-fast -Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:
-fast -Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE



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Peak Compiler Invocation

C benchmarks:
icl -Qstd=c99

C++ benchmarks:
icl

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qstd=c99 ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Qunroll2 -Oa /F512000000 -link /FORCE:MULTIPLE

470.lbm: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Qunroll2 -Qscalar-rep- -Qprefetch /F512000000
-link /FORCE:MULTIPLE

482.sphinx3: -fast -Qauto-ilp32 -Qunroll2 /F512000000
-link /FORCE:MULTIPLE

C++ benchmarks:

444.namd: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Oa -Qcxx_features /F512000000 shlw64m.lib
-link /FORCE:MULTIPLE

447.dealII: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Qunroll2 -Qprefetch -Qcxx_features /F512000000
shlw64m.lib -link /FORCE:MULTIPLE

450.soplex: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Qcxx_features /F512000000 shlw64m.lib
-link /FORCE:MULTIPLE

453.povray: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Qunroll4 -Qansi-alias -Qcxx_features /F512000000
shlw64m.lib -link /FORCE:MULTIPLE

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Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep- /F1000000000
-link /FORCE:MULTIPLE

434.zeusmp: -Qprof_gen(pass 1) -Qprof_use(pass 2) -QxT -O2 -Qprec-div-
-Qunroll10 -Qscalar-rep- /F1000000000
-link /FORCE:MULTIPLE

437.leslie3d: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Qprefetch /F1000000000 -link /FORCE:MULTIPLE

459.GemsFDTD: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Qunroll2 -Ob0 -Qprefetch /F1000000000
-link /FORCE:MULTIPLE

465.tonto: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Qunroll4 -Qauto /F1000000000
-link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:

435.gromacs: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Oa -Qprefetch /F1000000000
-link /FORCE:MULTIPLE

436.cactusADM: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qauto-ilp32
-Qunroll2 -Qprefetch /F1000000000
-link /FORCE:MULTIPLE

454.calculix: -fast -Qauto-ilp32 -Qunroll-aggressive /F1000000000
-link /FORCE:MULTIPLE

481.wrf: basepeak = yes

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

<http://www.spec.org/cpu2006/flags/dell.ic10.1.windows.flags.20090713.html>

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

<http://www.spec.org/cpu2006/flags/dell.ic10.1.windows.flags.20090713.xml>



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