



SPEC® CFP2006 Result

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Dell Inc.

SPECfp®_rate2006 = 32.9

PowerEdge 860 (Intel Xeon X3220, 2.40 GHz)

SPECfp_rate_base2006 = 32.4

CPU2006 license: 55

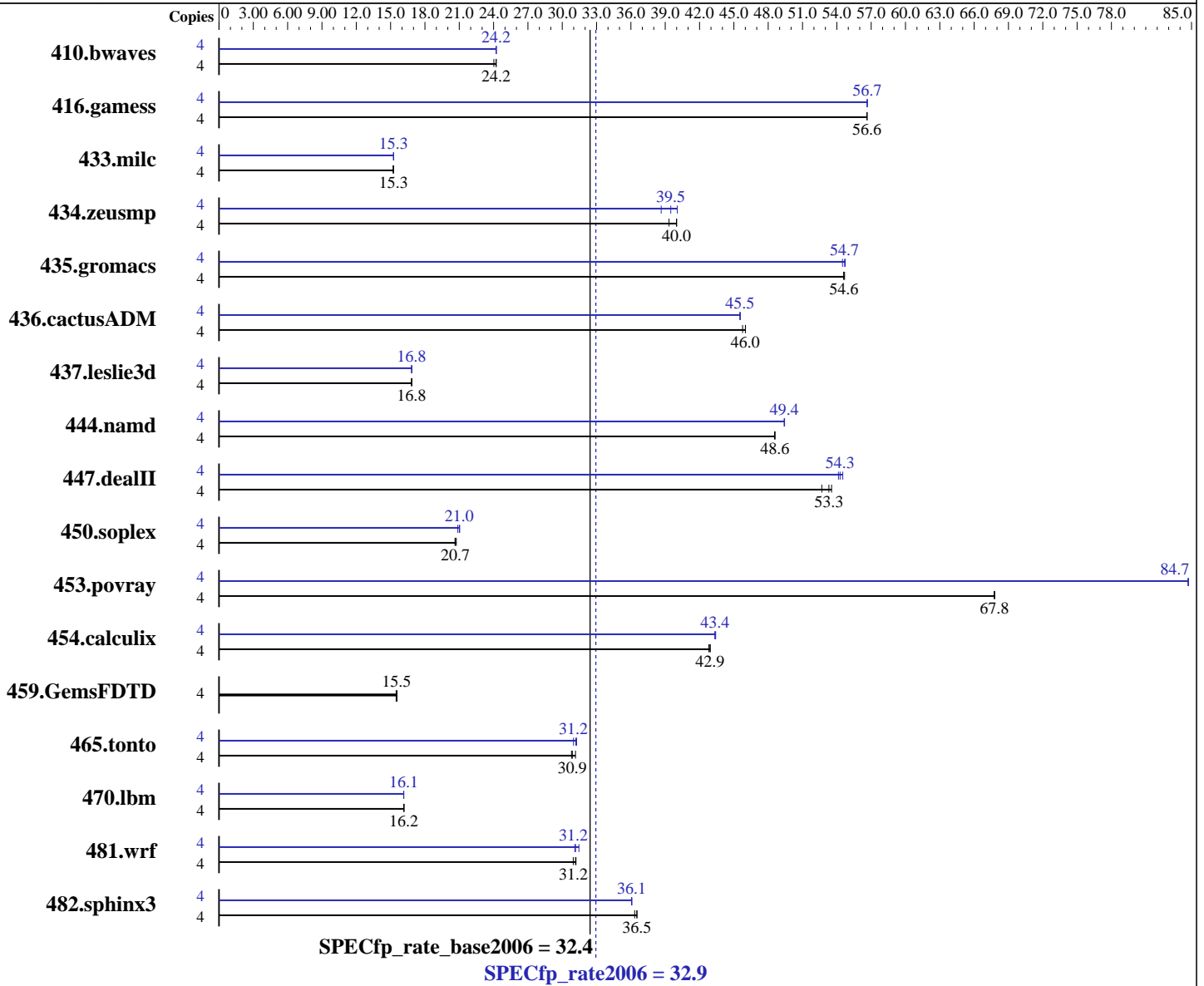
Test date: Jan-2007

Test sponsor: Dell Inc.

Hardware Availability: Jan-2007

Tested by: Dell Inc.

Software Availability: Oct-2006



Hardware

CPU Name: Intel Xeon X3220
 CPU Characteristics: 1066MHz system bus
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 8 MB I+D on chip per chip, 4 MB shared / 2 cores

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Software

Operating System: Windows Server 2003 Standard Edition
 Compiler: Intel C++ Compiler 9.1 for IA32 (20061103Z)
 Intel FORTRAN Compiler 9.1 for IA32 (20061103Z)
 Microsoft Visual Studio 2005 (8.0.50727.42)
 Auto Parallel: No
 File System: NTFS
 System State: Default
 Base Pointers: 32-bit
 Peak Pointers: 32-bit

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L3 Cache: None
Other Cache: None
Memory: 4 GB (4x1 GB 667MHz ECC DDR2 SDRAM)
Disk Subsystem: 1 x 73GB SAS 10000 RPM
Other Hardware: None

Other Software: MicroQuill SmartHeap Library 8.0

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	2263	24.0	2244	24.2	<u>2244</u>	<u>24.2</u>	4	2243	24.2	2244	24.2	<u>2244</u>	<u>24.2</u>
416.gamess	4	<u>1383</u>	<u>56.6</u>	1382	56.7	1383	56.6	4	1383	56.6	1382	56.7	<u>1383</u>	<u>56.7</u>
433.milc	4	2413	15.2	<u>2408</u>	<u>15.3</u>	2407	15.3	4	2406	15.3	2408	15.3	<u>2407</u>	<u>15.3</u>
434.zeusmp	4	910	40.0	925	39.3	<u>910</u>	<u>40.0</u>	4	942	38.6	<u>922</u>	<u>39.5</u>	909	40.1
435.gromacs	4	523	54.6	<u>523</u>	<u>54.6</u>	522	54.7	4	<u>522</u>	<u>54.7</u>	522	54.7	524	54.5
436.cactusADM	4	1045	45.8	1039	46.0	<u>1039</u>	<u>46.0</u>	4	<u>1050</u>	<u>45.5</u>	1050	45.5	1049	45.6
437.leslie3d	4	2234	16.8	<u>2233</u>	<u>16.8</u>	2232	16.8	4	2233	16.8	<u>2233</u>	<u>16.8</u>	2232	16.8
444.namd	4	660	48.6	<u>660</u>	<u>48.6</u>	661	48.6	4	<u>649</u>	<u>49.4</u>	649	49.4	649	49.4
447.dealII	4	<u>858</u>	<u>53.3</u>	855	53.5	869	52.7	4	<u>843</u>	<u>54.3</u>	845	54.1	839	54.5
450.soplex	4	1617	20.6	1608	20.7	<u>1614</u>	<u>20.7</u>	4	1598	20.9	1586	21.0	<u>1588</u>	<u>21.0</u>
453.povray	4	314	67.8	314	67.8	<u>314</u>	<u>67.8</u>	4	251	84.7	<u>251</u>	<u>84.7</u>	251	84.7
454.calculix	4	771	42.8	<u>769</u>	<u>42.9</u>	769	42.9	4	<u>761</u>	<u>43.4</u>	761	43.3	760	43.4
459.GemsFDTD	4	2742	15.5	<u>2733</u>	<u>15.5</u>	2728	15.6	4	2742	15.5	<u>2733</u>	<u>15.5</u>	2728	15.6
465.tonto	4	1263	31.2	1278	30.8	<u>1275</u>	<u>30.9</u>	4	<u>1262</u>	<u>31.2</u>	1270	31.0	1259	31.3
470.lbm	4	3401	16.2	3400	16.2	<u>3401</u>	<u>16.2</u>	4	<u>3403</u>	<u>16.1</u>	3406	16.1	3403	16.2
481.wrf	4	1432	31.2	<u>1434</u>	<u>31.2</u>	1443	31.0	4	<u>1434</u>	<u>31.2</u>	1436	31.1	1420	31.5
482.sphinx3	4	<u>2135</u>	<u>36.5</u>	2146	36.3	2134	36.5	4	2161	36.1	2162	36.1	<u>2161</u>	<u>36.1</u>

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

General Notes

Adjacent Sector Prefetch disabled in BIOS, default enabled
32-bit binaries were built on Windows XP Professional x64 Edition

Base Compiler Invocation

C benchmarks:
icl -Qc99

C++ benchmarks:
icl

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Base Compiler Invocation (Continued)

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qc99 ifort

Base Portability Flags

436.cactusADM: -Qlowercase /assume:underscore
444.namd: -TP
447.dealII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
-DBOOST_NO_INTRINSIC_WCHAR_T
453.povray: -DSPEC_CPU_WINDOWS_ICL
454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase
481.wrf: -DSPEC_CPU_WINDOWS_ICL

Base Optimization Flags

C benchmarks:
-fast /F512000000 shlW32M.lib -link /FORCE:MULTIPLE

C++ benchmarks:
-fast -Qcxx_features /F512000000 shlW32M.lib
-link /FORCE:MULTIPLE

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

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

Peak Compiler Invocation

C benchmarks:
icl -Qc99

C++ benchmarks:
icl

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qc99 ifort



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Peak Portability Flags

```

436.cactusADM: -Qlowercase /assume:underscore
444.namd: -TP
447.dealII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
           -DBOOST_NO_INTRINSIC_WCHAR_T
453.povray: -DSPEC_CPU_WINDOWS_ICL
454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase
481.wrf: -DSPEC_CPU_WINDOWS_ICL

```

Peak Optimization Flags

C benchmarks:

```

ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast /F512000000
shlW32M.lib -link /FORCE:MULTIPLE

```

C++ benchmarks:

```

ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx_features
/F512000000 shlW32M.lib -link /FORCE:MULTIPLE

```

Fortran benchmarks:

```

410.bwaves: ONESTEP -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast
           /F1000000000 -link /FORCE:MULTIPLE

```

```

416.gamess: ONESTEP -fast /F1000000000 -link /FORCE:MULTIPLE

```

434.zeusmp: Same as 410.bwaves

437.leslie3d: Same as 410.bwaves

459.GemsFDTD: basepeak = yes

465.tonto: Same as 410.bwaves

Benchmarks using both Fortran and C:

```

435.gromacs: -fast /F1000000000 -link /FORCE:MULTIPLE

```

```

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

```

454.calculix: Same as 436.cactusADM

481.wrf: Same as 435.gromacs

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

<http://www.spec.org/cpu2006/flags/dell.cpu2006.ic91.flags.20090715.html>



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

<http://www.spec.org/cpu2006/flags/dell.cpu2006.ic91.flags.20090715.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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