SPEC® CFP2006 Result

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Dell Inc.

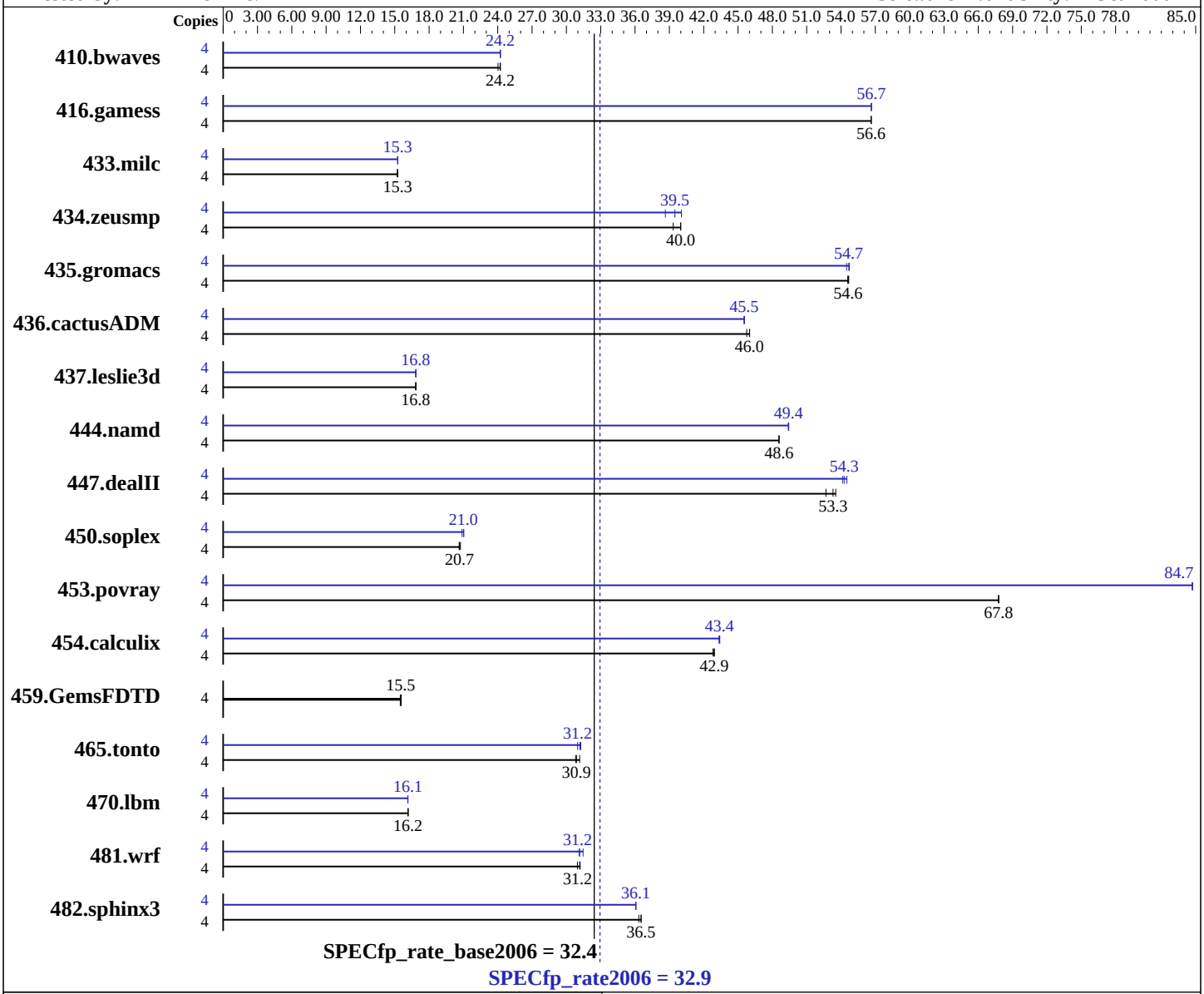
PowerEdge 860 (Intel Xeon X3220, 2.40 GHz)

SPECfp®_rate2006 = 32.9

SPECfp_rate_base2006 = 32.4

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Jan-2007
Hardware Availability: Jan-2007
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	**2244**	**24.2**	4	2243	24.2	2244	24.2	**2244**	**24.2**
416.gamess	4	**1383**	**56.6**	1382	56.7	1383	56.6	4	1383	56.6	1382	56.7	**1383**	**56.7**
433.milc	4	2413	15.2	**2408**	**15.3**	2407	15.3	4	2406	15.3	2408	15.3	**2407**	**15.3**
434.zeusmp	4	910	40.0	925	39.3	**910**	**40.0**	4	942	38.6	**922**	**39.5**	909	40.1
435.gromacs	4	523	54.6	**523**	**54.6**	522	54.7	4	**522**	**54.7**	522	54.7	524	54.5
436.cactusADM	4	1045	45.8	1039	46.0	**1039**	**46.0**	4	**1050**	**45.5**	1050	45.5	1049	45.6
437.leslie3d	4	2234	16.8	**2233**	**16.8**	2232	16.8	4	2233	16.8	**2233**	**16.8**	2232	16.8
444.namd	4	660	48.6	**660**	**48.6**	661	48.6	4	**649**	**49.4**	649	49.4	649	49.4
447.dealII	4	**858**	**53.3**	855	53.5	869	52.7	4	**843**	**54.3**	845	54.1	839	54.5
450.soplex	4	1617	20.6	1608	20.7	**1614**	**20.7**	4	1598	20.9	1586	21.0	**1588**	**21.0**
453.povray	4	314	67.8	314	67.8	**314**	**67.8**	4	251	84.7	**251**	**84.7**	251	84.7
454.calculix	4	771	42.8	**769**	**42.9**	769	42.9	4	**761**	**43.4**	761	43.3	760	43.4
459.GemsFDTD	4	2742	15.5	**2733**	**15.5**	2728	15.6	4	2742	15.5	**2733**	**15.5**	2728	15.6
465.tonto	4	1263	31.2	1278	30.8	**1275**	**30.9**	4	**1262**	**31.2**	1270	31.0	1259	31.3
470.lbm	4	3401	16.2	3400	16.2	**3401**	**16.2**	4	**3403**	**16.1**	3406	16.1	3403	16.2
481.wrf	4	1432	31.2	**1434**	**31.2**	1443	31.0	4	**1434**	**31.2**	1436	31.1	1420	31.5
482.sphinx3	4	**2135**	**36.5**	2146	36.3	2134	36.5	4	2161	36.1	2162	36.1	**2161**	**36.1**

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
```

Continued on next page

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

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

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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