SPEC® CFP2006 Result

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Dell Inc.

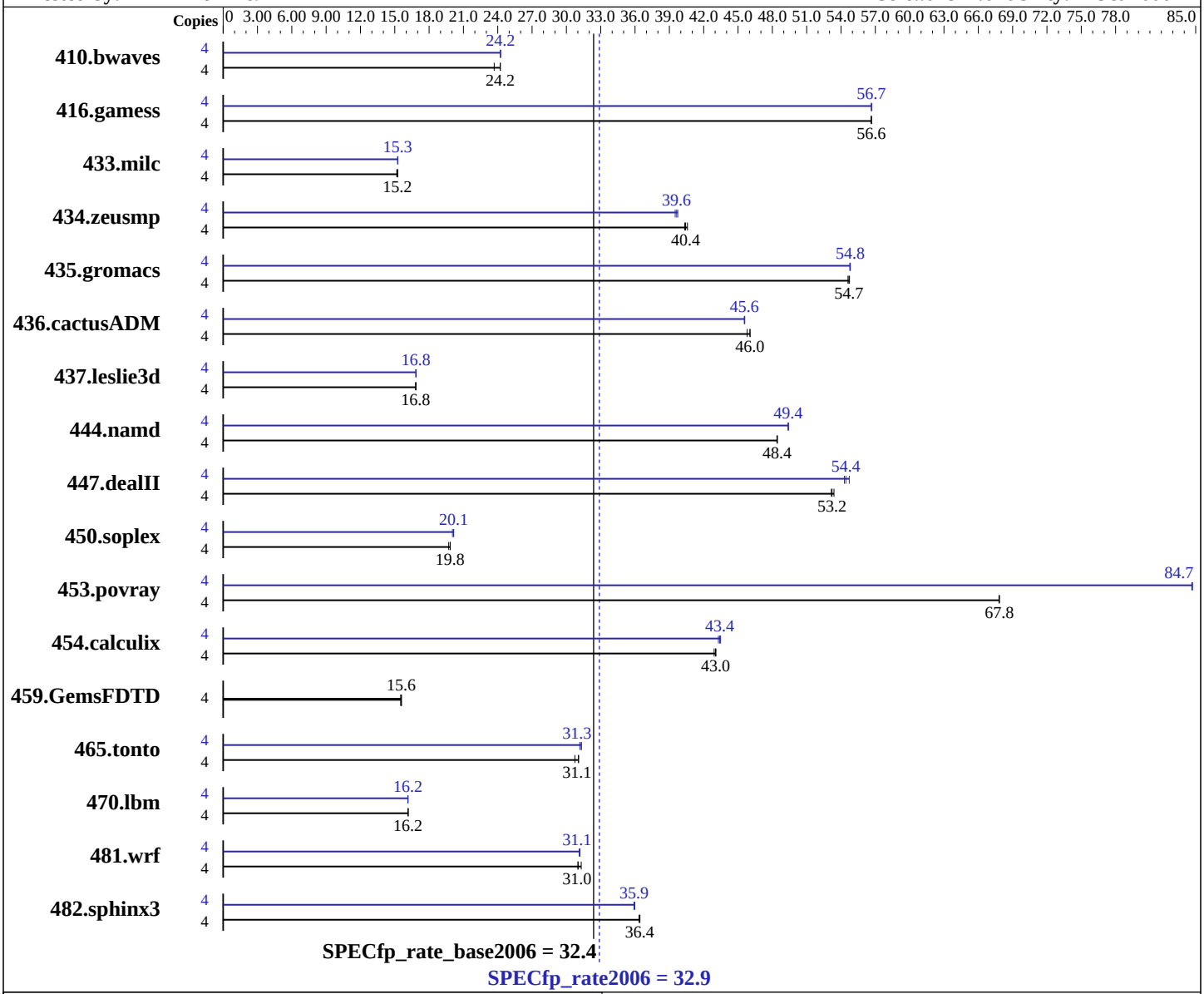
PowerEdge 840 (Intel Xeon X3220, 2.40 GHz)

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	2295	23.7	2244	24.2	**2244**	**24.2**	4	2243	24.2	2243	24.2	**2243**	**24.2**
416.gamess	4	1383	56.6	1382	56.7	**1383**	**56.6**	4	**1382**	**56.7**	1382	56.7	1382	56.7
433.milc	4	2420	15.2	2407	15.3	**2409**	**15.2**	4	2408	15.3	**2407**	**15.3**	2405	15.3
434.zeusmp	4	902	40.3	**901**	**40.4**	897	40.6	4	916	39.7	**918**	**39.6**	921	39.5
435.gromacs	4	**522**	**54.7**	522	54.7	523	54.6	4	521	54.8	**521**	**54.8**	521	54.8
436.cactusADM	4	1044	45.8	**1038**	**46.0**	1038	46.0	4	1049	45.6	**1049**	**45.6**	1048	45.6
437.leslie3d	4	2235	16.8	2232	16.8	**2232**	**16.8**	4	2231	16.9	**2232**	**16.8**	2232	16.8
444.namd	4	**662**	**48.4**	662	48.4	663	48.4	4	650	49.4	649	49.4	**649**	**49.4**
447.dealII	4	857	53.4	**860**	**53.2**	861	53.2	4	**841**	**54.4**	836	54.7	843	54.3
450.soplex	4	1681	19.9	**1681**	**19.8**	1692	19.7	4	**1656**	**20.1**	1665	20.0	1655	20.2
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	**767**	**43.0**	766	43.1	769	42.9	4	759	43.5	762	43.3	**760**	**43.4**
459.GemsFDTD	4	**2726**	**15.6**	2723	15.6	2736	15.5	4	**2726**	**15.6**	2723	15.6	2736	15.5
465.tonto	4	1267	31.1	1280	30.7	**1267**	**31.1**	4	1257	31.3	**1258**	**31.3**	1263	31.2
470.lbm	4	3400	16.2	3401	16.2	**3400**	**16.2**	4	3402	16.2	**3403**	**16.2**	3403	16.2
481.wrf	4	1441	31.0	**1440**	**31.0**	1428	31.3	4	1435	31.1	1432	31.2	**1435**	**31.1**
482.sphinx3	4	2140	36.4	**2141**	**36.4**	2145	36.3	4	2171	35.9	**2171**	**35.9**	2166	36.0

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

General Notes

```
32-bit binaries were built on Windows XP Professional x64 Edition
```

Base Compiler Invocation

C benchmarks:

```
icl -Qc99
```

C++ benchmarks:

```
icl
```

Fortran benchmarks:

```
ifort
```

Continued on next page

Base Compiler Invocation (Continued)

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 other inquiries, please contact webmaster@spec.org.

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