SPEC® CFP2006 Result

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Intel Corporation

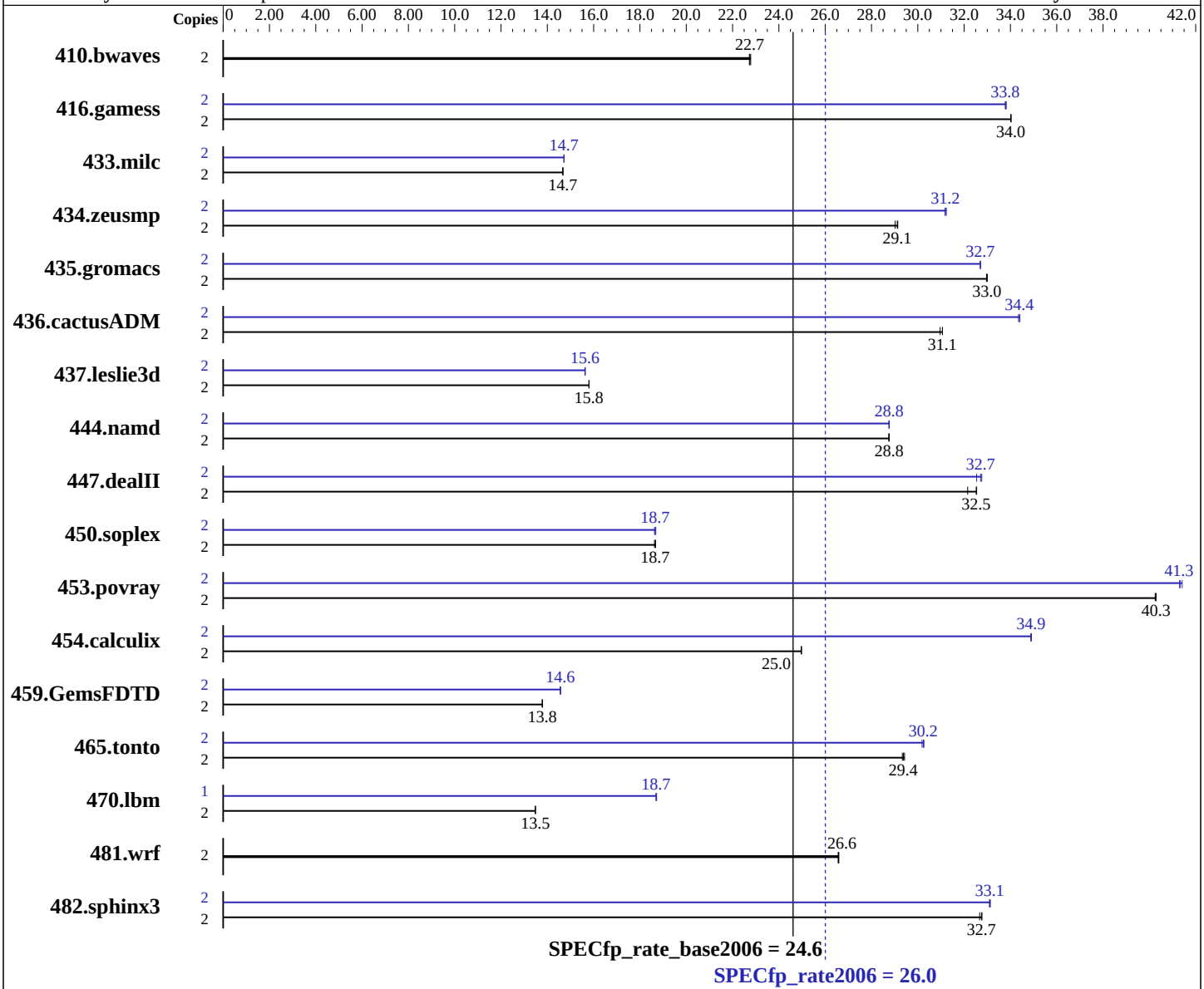
Alienware Area-51 M15x-R1 (Intel Core 2 Extreme X9000)

SPECfp®_rate2006 = 26.0

SPECfp_rate_base2006 = 24.6

CPU2006 license: 13
Test sponsor: Intel Corporation
Tested by: Intel Corporation

Test date: Dec-2007
Hardware Availability: Jan-2008
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Core 2 Extreme X9000
CPU Characteristics:	
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1 chip
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 Ultimate(32-bit)
Compiler:	Intel C++ Compiler for IA32 version 10.1 Build 20070913 Package ID: w_cc_p_10.1.011 Intel Fortran Compiler for IA32 version 10.1 Build 20070913 Package ID: w_fc_p_10.1.011 Microsoft Visual Studio 2005 SP1 (for libraries)
Auto Parallel:	Yes
File System:	NTFS
System State:	Default

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L3 Cache: None
Other Cache: None
Memory: 2 GB (2x1GB Qimonda DDR2-667 CL5)
Disk Subsystem: Fujitsu 120GB GB SATA, 7200 RPM
Other Hardware: None

Base Pointers: 32-bit
Peak Pointers: 32-bit
Other Software: None
SmartHeap Library Version 8.1 from http://www.microquill.com/

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2	1196	22.7	**1195**	**22.7**	1193	22.8	2	1196	22.7	**1195**	**22.7**	1193	22.8
416.gamess	2	1151	34.0	**1151**	**34.0**	1151	34.0	2	**1159**	**33.8**	1159	33.8	1158	33.8
433.milc	2	1251	14.7	**1251**	**14.7**	1252	14.7	2	1247	14.7	1248	14.7	**1247**	**14.7**
434.zeusmp	2	**625**	**29.1**	627	29.0	625	29.1	2	**584**	**31.2**	584	31.2	583	31.2
435.gromacs	2	**433**	**33.0**	433	33.0	433	33.0	2	**437**	**32.7**	437	32.7	437	32.7
436.cactusADM	2	769	31.1	772	31.0	**769**	**31.1**	2	**695**	**34.4**	696	34.3	695	34.4
437.leslie3d	2	**1190**	**15.8**	1190	15.8	1190	15.8	2	**1203**	**15.6**	1202	15.6	1203	15.6
444.namd	2	558	28.8	**558**	**28.8**	558	28.8	2	558	28.8	**558**	**28.8**	558	28.8
447.dealII	2	712	32.2	703	32.5	**704**	**32.5**	2	698	32.8	**699**	**32.7**	703	32.5
450.soplex	2	895	18.6	893	18.7	**894**	**18.7**	2	895	18.6	**894**	**18.7**	893	18.7
453.povray	2	**264**	**40.3**	264	40.3	264	40.3	2	258	41.3	**257**	**41.3**	257	41.4
454.calculix	2	661	25.0	**661**	**25.0**	661	25.0	2	**473**	**34.9**	473	34.9	473	34.9
459.GemsFDTD	2	**1540**	**13.8**	1538	13.8	1540	13.8	2	1457	14.6	1457	14.6	**1457**	**14.6**
465.tonto	2	669	29.4	**670**	**29.4**	671	29.3	2	**651**	**30.2**	650	30.3	652	30.2
470.lbm	2	**2038**	**13.5**	2038	13.5	2038	13.5	1	735	18.7	**735**	**18.7**	734	18.7
481.wrf	2	**841**	**26.6**	841	26.6	840	26.6	2	**841**	**26.6**	841	26.6	840	26.6
482.sphinx3	2	1189	32.8	**1190**	**32.7**	1193	32.7	2	**1178**	**33.1**	1178	33.1	1176	33.1

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

General Notes

```
The system bus runs at 800 MHz
Binaries were built on Windows Vista32
The following VS 2005 SP1 updates were applied: KB926601 and KB932232
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
The start command with the /affinity switch was used to bind processes to cores
```

Base Compiler Invocation

C benchmarks:

```
icl -Qvc8 -Qc99
```

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Base Compiler Invocation (Continued)

C++ benchmarks:
icl -Qvc8

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc8 -Qc99 ifort

Base Portability Flags

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

Base Optimization Flags

C benchmarks:
-fast /F1000000000

C++ benchmarks:
-fast -Qcxx_features /F1000000000 shlw32m.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:
-fast /F1000000000

Benchmarks using both Fortran and C:
-fast /F1000000000

Peak Compiler Invocation

C benchmarks:
icl -Qvc8 -Qc99

C++ benchmarks:
icl -Qvc8

Fortran benchmarks:
ifort

Continued on next page

Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:
icl -Qvc8 -Qc99 ifort

Peak Portability Flags

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

Peak Optimization Flags

C benchmarks:

433.milc: -fast -Qunroll2 -Oa /F1000000000

470.lbm: -fast -Qunroll2 -Qscalar-rep- -Qprefetch /F1000000000

482.sphinx3: -fast -Qunroll2 /F1000000000

C++ benchmarks:

444.namd: -fast -Oa -Qcxx_features /F1000000000 shlw32m.lib
-link /FORCE:MULTIPLE

447.dealII: -fast -Qunroll2 -Qprefetch -Qcxx_features /F1000000000
shlw32m.lib -link /FORCE:MULTIPLE

450.soplex: -fast -Qcxx_features /F1000000000 shlw32m.lib
-link /FORCE:MULTIPLE

453.povray: -fast -Qunroll4 -Qansi-alias -Qcxx_features /F1000000000
shlw32m.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -fast -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep-
/F1000000000

434.zeusmp: -QxT -O2 -Qprec-div- -Qunroll0 -Qscalar-rep- /F1000000000

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Peak Optimization Flags (Continued)

437.leslie3d: `-fast -Qprefetch /F1000000000`

459.GemsFDTD: `-fast -Qunroll2 -Ob0 -Qprefetch /F1000000000`

465.tonto: `-fast -Qunroll4 -Qauto /F1000000000`

Benchmarks using both Fortran and C:

435.gromacs: `-fast -Oa -Qprefetch /F1000000000`

436.cactusADM: `-fast -Qunroll2 -Qprefetch /F1000000000`

454.calculix: `-fast -Qunroll-aggressive /F1000000000`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.09.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.09.xml`

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For other inquiries, please contact webmaster@spec.org.

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