SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

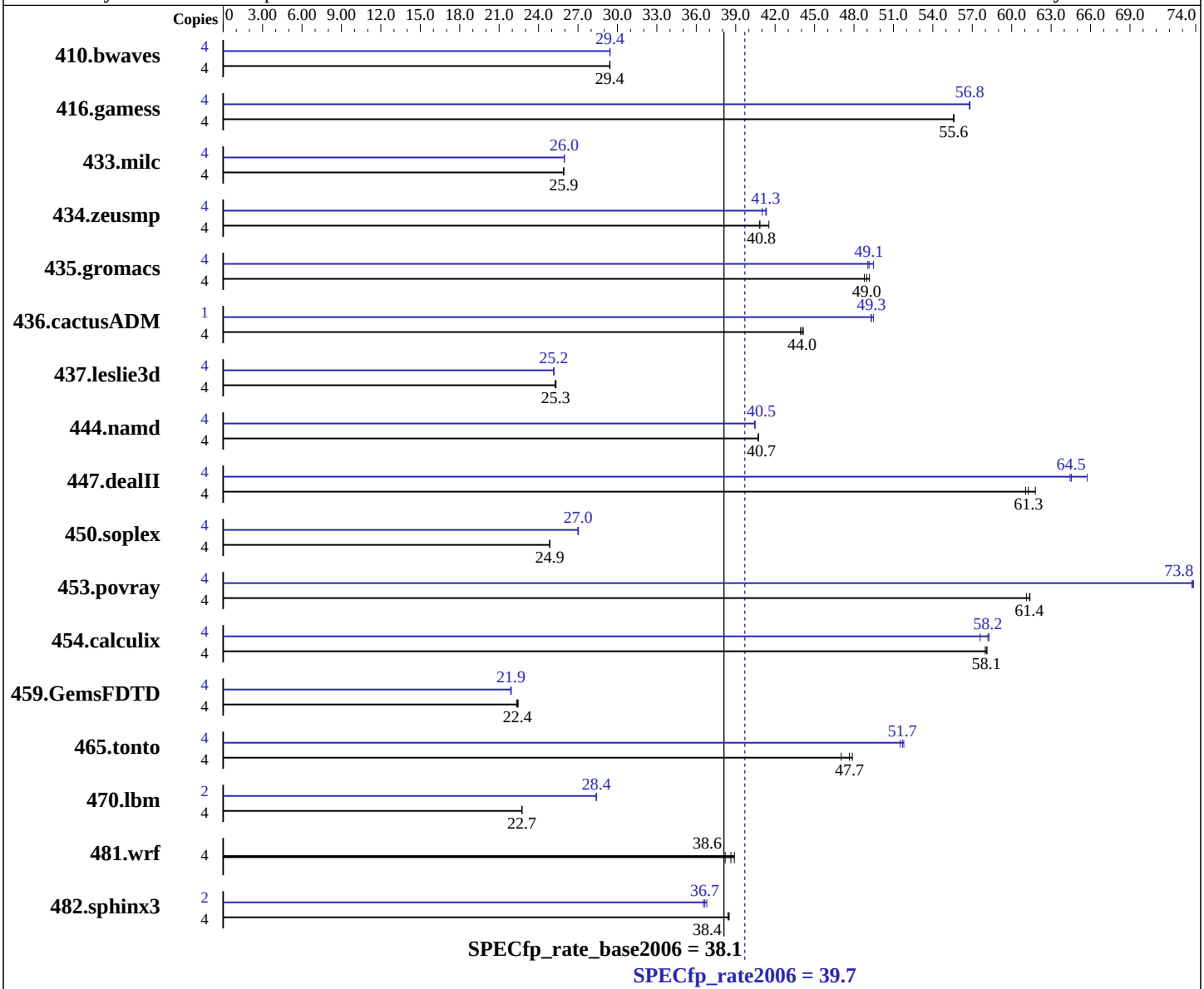
Express5800/120Bb-m6
(Intel Xeon E5205)

SPECfp®_rate2006 = 39.7

SPECfp_rate_base2006 = 38.1

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

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



Hardware

CPU Name:	Intel Xeon E5205
CPU Characteristics:	1066 MHz system bus
CPU MHz:	1867
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

Continued on next page

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16.60-0.21-smp
Compiler:	Intel C++ and Fortran Compiler 11.0 for Linux Build 20081105 Package ID: l_cproc_p_11.0.074, l_cprof_p_11.0.074
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/120Bb-m6
(Intel Xeon E5205)

SPECfp_rate2006 = 39.7

SPECfp_rate_base2006 = 38.1

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

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

L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem: 1x73.2 GB SAS, 10000 RPM
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	**1847**	**29.4**	1848	29.4	1846	29.4	4	**1847**	**29.4**	1847	29.4	1847	29.4
416.gamess	4	1408	55.6	1409	55.6	**1409**	**55.6**	4	1379	56.8	1378	56.8	**1379**	**56.8**
433.milc	4	**1417**	**25.9**	1418	25.9	1417	25.9	4	1415	26.0	1414	26.0	**1415**	**26.0**
434.zeusmp	4	**891**	**40.8**	892	40.8	877	41.5	4	**882**	**41.3**	887	41.0	881	41.3
435.gromacs	4	**583**	**49.0**	581	49.2	585	48.8	4	582	49.1	**581**	**49.1**	577	49.5
436.cactusADM	4	1083	44.1	1088	43.9	**1085**	**44.0**	1	**242**	**49.3**	241	49.5	242	49.3
437.leslie3d	4	1489	25.3	1484	25.3	**1486**	**25.3**	4	1495	25.1	**1494**	**25.2**	1493	25.2
444.namd	4	788	40.7	**788**	**40.7**	787	40.7	4	793	40.5	**793**	**40.5**	793	40.4
447.dealII	4	**747**	**61.3**	749	61.1	740	61.8	4	**709**	**64.5**	696	65.8	710	64.4
450.soplex	4	1343	24.8	**1342**	**24.9**	1342	24.9	4	1236	27.0	**1235**	**27.0**	1234	27.0
453.povray	4	347	61.4	**347**	**61.4**	348	61.1	4	289	73.7	288	73.8	**288**	**73.8**
454.calculix	4	569	58.0	568	58.1	**568**	**58.1**	4	573	57.6	**567**	**58.2**	566	58.3
459.GemsFDTD	4	1891	22.4	**1894**	**22.4**	1899	22.3	4	1940	21.9	1936	21.9	**1937**	**21.9**
465.tonto	4	822	47.9	**826**	**47.7**	837	47.0	4	760	51.8	764	51.5	**761**	**51.7**
470.lbm	4	2418	22.7	**2417**	**22.7**	2417	22.7	2	968	28.4	968	28.4	**968**	**28.4**
481.wrf	4	1149	38.9	**1157**	**38.6**	1170	38.2	4	1149	38.9	**1157**	**38.6**	1170	38.2
482.sphinx3	4	2029	38.4	**2028**	**38.4**	2025	38.5	2	1059	36.8	**1064**	**36.7**	1066	36.6

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

Submit Notes

```
The config file option 'submit' was used.
 taskset was used to bind processes to cores except
 for 436.cactusADM peak
```

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to 64M
```

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

C++ benchmarks:
-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

Fortran benchmarks:
-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

Benchmarks using both Fortran and C:
-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc
```

482.sphinx3: `/opt/intel/Compiler/11.0/074/bin/ia32/icc -L/opt/intel/Compiler/11.0/074/ipp/ia32/lib -I/opt/intel/Compiler/11.0/074/ipp/ia32/include`

C++ benchmarks (except as noted below):
```
icpc
```

450.soplex: `/opt/intel/Compiler/11.0/074/bin/ia32/icpc -L/opt/intel/Compiler/11.0/074/ipp/ia32/lib -I/opt/intel/Compiler/11.0/074/ipp/ia32/include`

Fortran benchmarks (except as noted below):
```
ifort
```

437.leslie3d: `/opt/intel/Compiler/11.0/074/bin/ia32/ifort -L/opt/intel/Compiler/11.0/074/ipp/ia32/lib -I/opt/intel/Compiler/11.0/074/ipp/ia32/include`

Benchmarks using both Fortran and C:
```
icc ifort
```

Peak Portability Flags

410.bwaves: `-DSPEC_CPU_LP64`
416.gamess: `-DSPEC_CPU_LP64`
433.milc: `-DSPEC_CPU_LP64`
434.zeusmp: `-DSPEC_CPU_LP64`
435.gromacs: `-DSPEC_CPU_LP64 -nofor_main`
436.cactusADM: `-DSPEC_CPU_LP64 -nofor_main`
444.namd: `-DSPEC_CPU_LP64`
447.dealII: `-DSPEC_CPU_LP64`
453.povray: `-DSPEC_CPU_LP64`
454.calculix: `-DSPEC_CPU_LP64 -nofor_main`
459.GemsFDTD: `-DSPEC_CPU_LP64`
465.tonto: `-DSPEC_CPU_LP64`
470.lbm: `-DSPEC_CPU_LP64`
481.wrf: `-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

Continued on next page

Peak Optimization Flags (Continued)

433.milc: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -static -fno-alias

470.lbm: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-ilp32

482.sphinx3: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -static -fno-alias -auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2 -ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -static

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-malloc-options=3 -opt-prefetch

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2 -Ob0 -opt-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2 -opt-prefetch -parallel -auto-ilp32

Continued on next page

Peak Optimization Flags (Continued)

454.calculix: `-xSSE4.1 -ipo -O3 -no-prec-div -static -auto-ilp32`

481.wrf: `basepeak = yes`

The flags files that were used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revE.20090710.html`
`http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revB.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revE.20090710.xml`
`http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revB.xml`

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
Report generated on Tue Jul 22 22:53:28 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 6 January 2009.