



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/120Bb-6
(Intel Xeon E5205)

SPECfp®_rate2006 = 37.9

SPECfp_rate_base2006 = 34.3

CPU2006 license: 9006

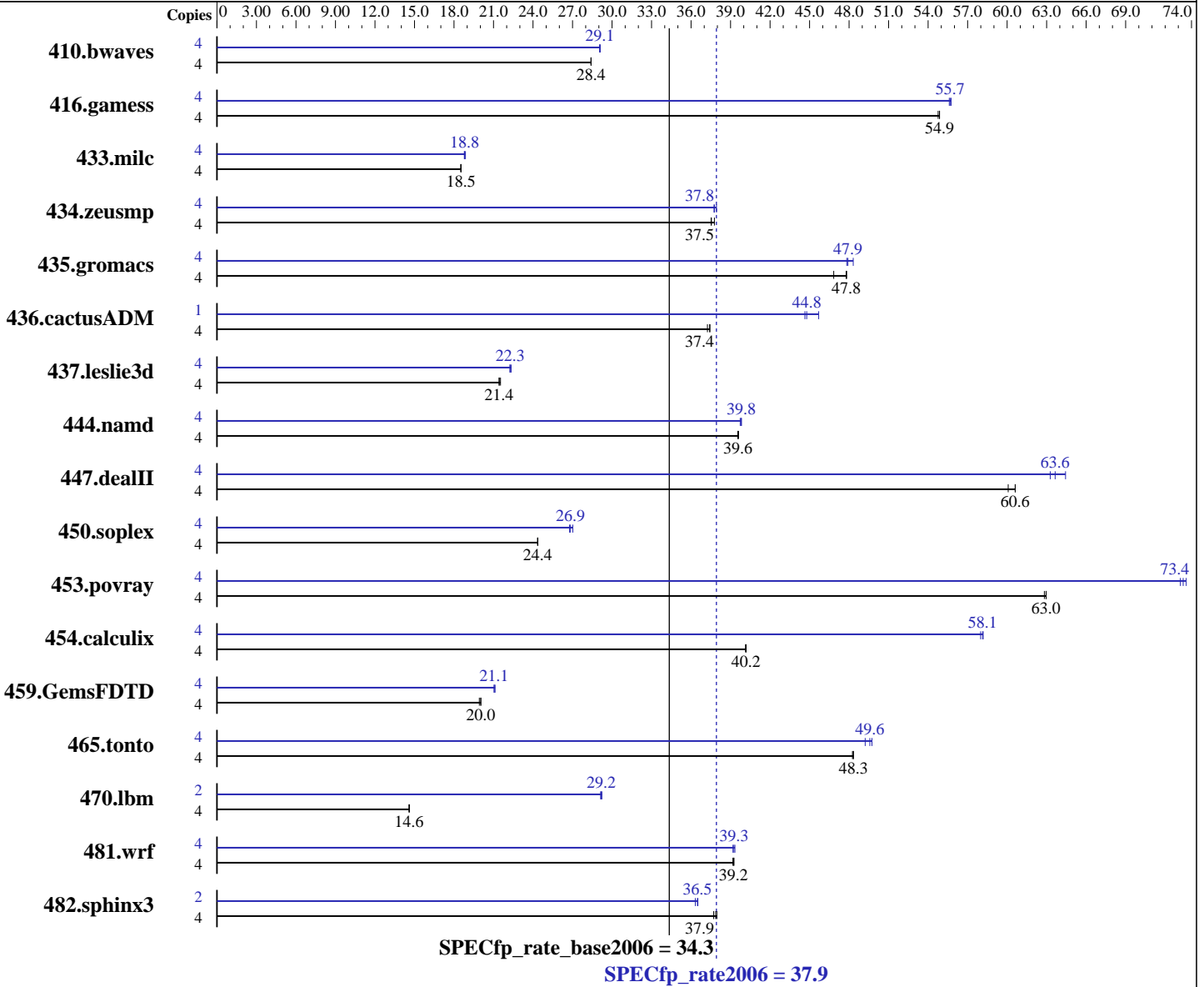
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Feb-2008

Hardware Availability: Feb-2008

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5205
 CPU Characteristics: 1.86 GHz, 6 MB L2, 1066 MHz 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

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Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smpp
 Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1 Build 20070913 Package ID: l_cc_p_10.1.008, l_fc_p_10.1.008
 Auto Parallel: Yes
 File System: ext2

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L3 Cache: None
Other Cache: None
Memory: 8 GB (4x2 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem: 1x73.2 GB SAS, 10000RPM
Other Hardware: None

System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: binutils-2.17.tar.gz, Version 2.17

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1913	28.4	1914	28.4	<u>1913</u>	<u>28.4</u>	4	1871	29.1	<u>1870</u>	<u>29.1</u>	1868	29.1
416.gamess	4	1430	54.8	<u>1428</u>	<u>54.9</u>	1427	54.9	4	1408	55.6	1405	55.7	<u>1407</u>	<u>55.7</u>
433.milc	4	<u>1982</u>	<u>18.5</u>	1981	18.5	1982	18.5	4	1946	18.9	<u>1953</u>	<u>18.8</u>	1955	18.8
434.zeusmp	4	970	37.5	964	37.8	<u>970</u>	<u>37.5</u>	4	960	37.9	<u>964</u>	<u>37.8</u>	964	37.7
435.gromacs	4	<u>598</u>	<u>47.8</u>	597	47.8	610	46.8	4	<u>596</u>	<u>47.9</u>	591	48.3	597	47.8
436.cactusADM	4	<u>1278</u>	<u>37.4</u>	1283	37.2	1277	37.4	1	262	45.7	<u>267</u>	<u>44.8</u>	268	44.6
437.leslie3d	4	<u>1754</u>	<u>21.4</u>	1755	21.4	1746	21.5	4	1683	22.3	1690	22.3	<u>1689</u>	<u>22.3</u>
444.namd	4	810	39.6	<u>811</u>	<u>39.6</u>	811	39.5	4	805	39.8	<u>806</u>	<u>39.8</u>	807	39.7
447.dealII	4	762	60.1	<u>755</u>	<u>60.6</u>	755	60.6	4	723	63.3	710	64.4	<u>719</u>	<u>63.6</u>
450.soplex	4	1369	24.4	1371	24.3	<u>1369</u>	<u>24.4</u>	4	1235	27.0	1246	26.8	<u>1242</u>	<u>26.9</u>
453.povray	4	<u>338</u>	<u>63.0</u>	338	63.0	339	62.8	4	<u>290</u>	<u>73.4</u>	289	73.6	291	73.2
454.calculix	4	821	40.2	<u>822</u>	<u>40.2</u>	822	40.1	4	567	58.2	569	58.0	<u>568</u>	<u>58.1</u>
459.GemsFDTD	4	<u>2118</u>	<u>20.0</u>	2130	19.9	2118	20.0	4	2009	21.1	2016	21.0	<u>2016</u>	<u>21.1</u>
465.tonto	4	816	48.3	814	48.3	<u>814</u>	<u>48.3</u>	4	791	49.7	800	49.2	<u>794</u>	<u>49.6</u>
470.lbm	4	<u>3765</u>	<u>14.6</u>	3764	14.6	3766	14.6	2	<u>942</u>	<u>29.2</u>	943	29.1	940	29.2
481.wrf	4	1140	39.2	1138	39.3	<u>1139</u>	<u>39.2</u>	4	<u>1138</u>	<u>39.3</u>	1136	39.3	1140	39.2
482.sphinx3	4	<u>2059</u>	<u>37.9</u>	2054	38.0	2067	37.7	2	1073	36.3	<u>1069</u>	<u>36.5</u>	1067	36.5

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

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'/usr/bin/taskset' used to bind processes to CPUs
OMP_NUM_THREADS set to number of cores

General Notes

All benchmarks compiled in 64-bit mode except 437.leslie3d, 450.soplex, 470.lbm and 482.sphinx3, for peak, are compiled in 32-bit mode



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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:

-fast

C++ benchmarks:

-fast

Fortran benchmarks:

-fast

Benchmarks using both Fortran and C:

-fast



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Peak Compiler Invocation

C benchmarks (except as noted below):

```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib  
-I/opt/intel/cc/10.1.008/include
```

Fortran benchmarks (except as noted below):

ifort

```
437.leslie3d: /opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib  
-I/opt/intel/fc/10.1.008/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.deallI: -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  
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias  
-auto-ilp32
```

```
470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-scalar-rep- -prefetch -opt-malloc-options=3
```

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Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32

447.dealIII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast
-opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4
-ansi-alias

Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-prefetch -parallel -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32

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

<http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-FP-intel64-linux-flags.20090714.02.html>



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

<http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-FP-intel64-linux-flags.20090714.02.xml>

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