



SPEC[®] CFP2006 Result

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NEC Corporation

Express5800/110Ri-1
(Intel Pentium Dual-Core E2160)

SPECfp[®]_rate2006 = 20.4

SPECfp_rate_base2006 = 19.6

CPU2006 license: 9006

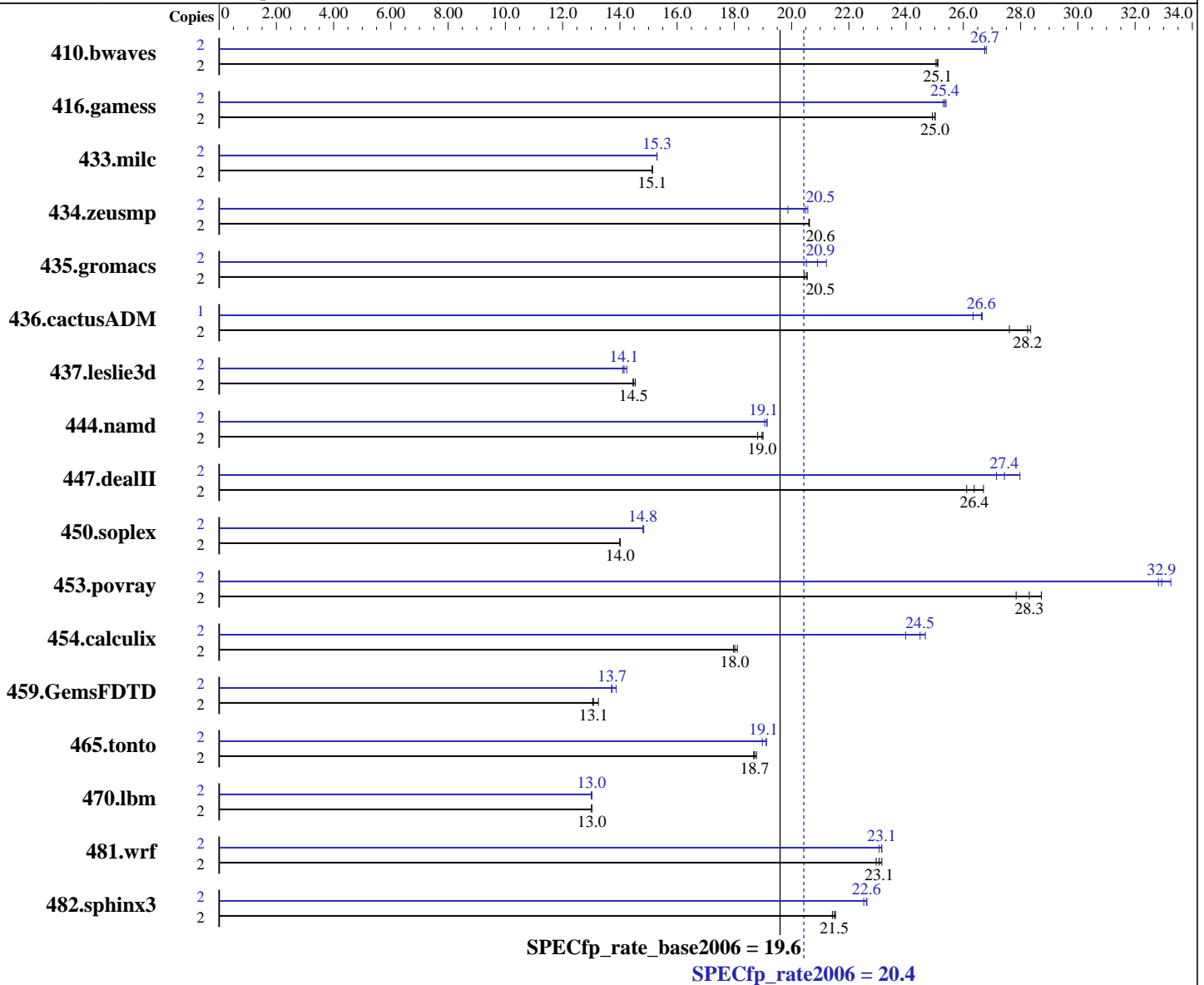
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-2008

Hardware Availability: Apr-2008

Software Availability: Nov-2007



Hardware

CPU Name: Intel Pentium Dual-Core E2160
 CPU Characteristics: 1.80 GHz, 1 MB L2, 800 MHz bus
 CPU MHz: 1800
 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: 1 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: ReiserFS

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L3 Cache: None
Other Cache: None
Memory: 8 GB (4x2 GB PC2-6400E, 2 rank, CL6-6-6, ECC)
Disk Subsystem: 1x80.0 GB SATAII, 7200RPM
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	2	1085	25.0	<u>1083</u>	<u>25.1</u>	1083	25.1	2	1016	26.7	1014	26.8	<u>1016</u>	<u>26.7</u>
416.gamess	2	1565	25.0	<u>1566</u>	<u>25.0</u>	1572	24.9	2	1548	25.3	1542	25.4	<u>1544</u>	<u>25.4</u>
433.milc	2	<u>1213</u>	<u>15.1</u>	1214	15.1	1212	15.1	2	1200	15.3	1200	15.3	<u>1200</u>	<u>15.3</u>
434.zeusmp	2	883	20.6	883	20.6	<u>883</u>	<u>20.6</u>	2	<u>888</u>	<u>20.5</u>	885	20.6	916	19.9
435.gromacs	2	695	20.5	<u>696</u>	<u>20.5</u>	699	20.4	2	<u>683</u>	<u>20.9</u>	696	20.5	673	21.2
436.cactusADM	2	843	28.4	<u>846</u>	<u>28.2</u>	866	27.6	1	448	26.7	454	26.3	<u>449</u>	<u>26.6</u>
437.leslie3d	2	1293	14.5	1300	14.5	<u>1299</u>	<u>14.5</u>	2	1320	14.2	1333	14.1	<u>1329</u>	<u>14.1</u>
444.namd	2	844	19.0	<u>846</u>	<u>19.0</u>	853	18.8	2	838	19.1	841	19.1	<u>838</u>	<u>19.1</u>
447.dealII	2	857	26.7	876	26.1	<u>867</u>	<u>26.4</u>	2	818	28.0	<u>834</u>	<u>27.4</u>	843	27.2
450.soplex	2	<u>1190</u>	<u>14.0</u>	1190	14.0	1192	14.0	2	1127	14.8	1124	14.8	<u>1126</u>	<u>14.8</u>
453.povray	2	370	28.7	382	27.8	<u>376</u>	<u>28.3</u>	2	320	33.2	324	32.8	<u>323</u>	<u>32.9</u>
454.calculix	2	911	18.1	<u>916</u>	<u>18.0</u>	918	18.0	2	669	24.7	<u>674</u>	<u>24.5</u>	688	24.0
459.GemsFDTD	2	1602	13.2	1626	13.0	<u>1623</u>	<u>13.1</u>	2	<u>1546</u>	<u>13.7</u>	1530	13.9	1549	13.7
465.tonto	2	1048	18.8	1054	18.7	<u>1052</u>	<u>18.7</u>	2	1037	19.0	1029	19.1	<u>1030</u>	<u>19.1</u>
470.lbm	2	<u>2111</u>	<u>13.0</u>	2110	13.0	2112	13.0	2	2109	13.0	<u>2112</u>	<u>13.0</u>	2114	13.0
481.wrf	2	965	23.2	<u>969</u>	<u>23.1</u>	973	23.0	2	<u>965</u>	<u>23.1</u>	969	23.1	965	23.2
482.sphinx3	2	1819	21.4	<u>1814</u>	<u>21.5</u>	1810	21.5	2	<u>1724</u>	<u>22.6</u>	1731	22.5	1722	22.6

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
except for 436.cactusADM at peak.
OMP_NUM_THREADS set to number of cores

Platform Notes

Bios settings:
Hardware Prefetcher: Enabled
Adjacent Cache Line Prefetch: Enabled
Intel SpeedStep Technology: Disabled



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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

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

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Base Optimization Flags (Continued)

Fortran benchmarks:

-fast

Benchmarks using both Fortran and C:

-fast

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.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
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX



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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

482.sphinx3: -fast -unroll2

C++ benchmarks:

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

447.dealII: -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

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Peak Optimization Flags (Continued)

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.html>

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.xml>

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Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 20:04:21 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 22 July 2008.