SPEC® CFP2006 Result

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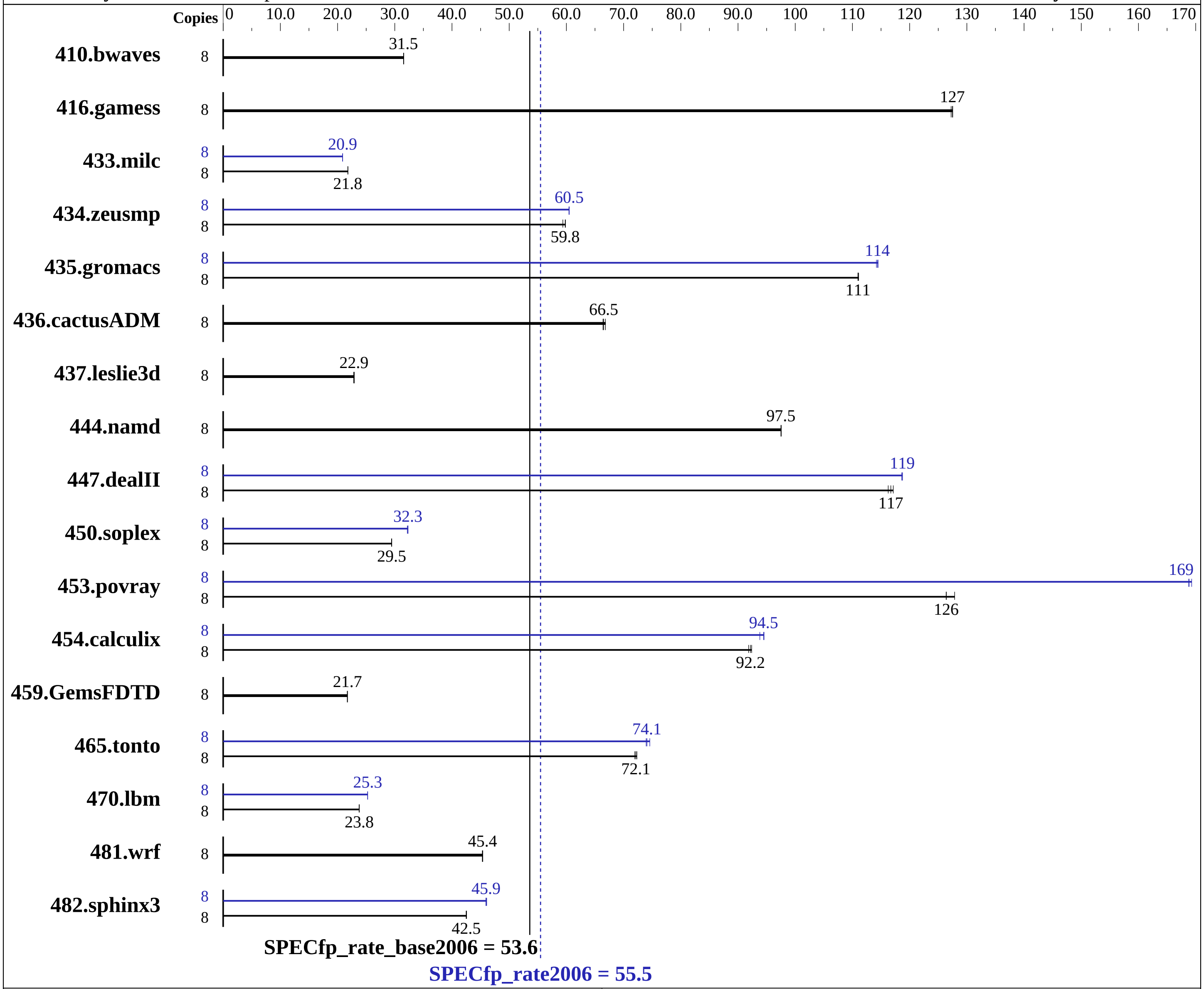
NEC Corporation

Express5800/120Ri-2
(Intel Xeon processor E5345)

SPECfp®_rate2006 = 55.5

SPECfp_rate_base2006 = 53.6

CPU2006 license:	9006	**Test date:**	Jun-2007
Test sponsor:	NEC Corporation	**Hardware Availability:**	Jan-2007
Tested by:	NEC Corporation	**Software Availability:**	Jun-2007



Hardware

CPU Name:	Intel Xeon E5345
CPU Characteristics:	2.33 GHz, 2x4 MB L2 shared, 1333 MHz bus
CPU MHz:	2333
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2 chips
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:	64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp for x86_64
Compiler:	Intel C++ Compiler for IA32/EM64T application, Version 9.1 - Build 20070320, Package-ID: l_cc_c_9.1.049 Intel Fortran Compiler for IA32/EM64T application, Version 9.1 - Build 20070320, Package ID: l_fc_c_9.1.045
Auto Parallel:	No
File System:	ext2

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB DDR2 5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem: 1x73.2 GB SAS, 15000RPM
Other Hardware: None

System State: Multiuser, Runlevel 3
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	**3448**	**31.5**	3444	31.6	3448	31.5	8	**3448**	**31.5**	3444	31.6	3448	31.5
416.gamess	8	**1229**	**127**	1228	128	1231	127	8	**1229**	**127**	1228	128	1231	127
433.milc	8	**3370**	**21.8**	3368	21.8	3371	21.8	8	3515	20.9	3516	20.9	**3515**	**20.9**
434.zeusmp	8	**1218**	**59.8**	1217	59.8	1226	59.4	8	1204	60.5	1204	60.4	**1204**	**60.5**
435.gromacs	8	**515**	**111**	515	111	514	111	8	**499**	**114**	500	114	499	114
436.cactusADM	8	**1437**	**66.5**	1431	66.8	1440	66.4	8	**1437**	**66.5**	1431	66.8	1440	66.4
437.leslie3d	8	3281	22.9	**3287**	**22.9**	3295	22.8	8	3281	22.9	**3287**	**22.9**	3295	22.8
444.namd	8	658	97.6	**658**	**97.5**	658	97.5	8	658	97.6	**658**	**97.5**	658	97.5
447.dealII	8	787	116	**784**	**117**	781	117	8	772	119	771	119	**771**	**119**
450.soplex	8	2268	29.4	**2264**	**29.5**	2263	29.5	8	2064	32.3	**2066**	**32.3**	2072	32.2
453.povray	8	337	126	**337**	**126**	333	128	8	251	169	**252**	**169**	252	169
454.calculix	8	**716**	**92.2**	718	91.9	714	92.4	8	**699**	**94.5**	698	94.6	704	93.8
459.GemsFDTD	8	3913	21.7	3906	21.7	**3906**	**21.7**	8	3913	21.7	3906	21.7	**3906**	**21.7**
465.tonto	8	1088	72.3	**1091**	**72.1**	1094	72.0	8	**1063**	**74.1**	1065	73.9	1056	74.6
470.lbm	8	**4621**	**23.8**	4621	23.8	4621	23.8	8	**4351**	**25.3**	4352	25.3	4350	25.3
481.wrf	8	**1970**	**45.4**	1973	45.3	1969	45.4	8	**1970**	**45.4**	1973	45.3	1969	45.4
482.sphinx3	8	**3668**	**42.5**	3671	42.5	3664	42.6	8	3395	45.9	**3393**	**45.9**	3385	46.1

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

General Notes

The system bus runs at 1333 MHz
All binaries were built with 64-bit Intel compiler except:
433.milc, 434.zeusmp, 450.soplex, 470.lbm and 482.sphinx3 in peak were built with
32-bit Intel compiler by changing the path for include and library files.

The Express5800/120Rg-1(Intel Xeon processor E5345) and
the Express5800/120Ri-2(Intel Xeon processor E5345) models are electronically equivalent.
The results have been measured on a Express5800/120Ri-2(Intel Xeon processor E5345) model.

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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`

Peak Compiler Invocation

C benchmarks:
`/opt/intel/cc/9.1.049/bin/icc -I/opt/intel/cc/9.1.049/include -L/opt/intel/cc/9.1.049/lib`

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

450.soplex: `/opt/intel/cc/9.1.049/bin/icpc -I/opt/intel/cc/9.1.049/include -L/opt/intel/cc/9.1.049/lib`

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

434.zeusmp: `/opt/intel/fc/9.1.045/bin/ifort -I/opt/intel/fc/9.1.045/include -L/opt/intel/fc/9.1.045/lib`

Benchmarks using both Fortran and C:
`icc ifort`

Peak Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -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
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

470.lbm: Same as 433.milc

482.sphinx3: -fast

C++ benchmarks:

Continued on next page

Peak Optimization Flags (Continued)

444.namd: `basepeak = yes`

447.dealII: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

450.soplex: `Same as 447.dealII`

453.povray: `Same as 447.dealII`

Fortran benchmarks:

410.bwaves: `basepeak = yes`

416.gamess: `basepeak = yes`

434.zeusmp: `-fast`

437.leslie3d: `basepeak = yes`

459.GemsFDTD: `basepeak = yes`

465.tonto: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

Benchmarks using both Fortran and C:

435.gromacs: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

436.cactusADM: `basepeak = yes`

454.calculix: `Same as 435.gromacs`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/NEC-ic91-linux-flags.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/NEC-ic91-linux-flags.xml

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

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