SPEC® CFP2006 Result

NEC Corporation

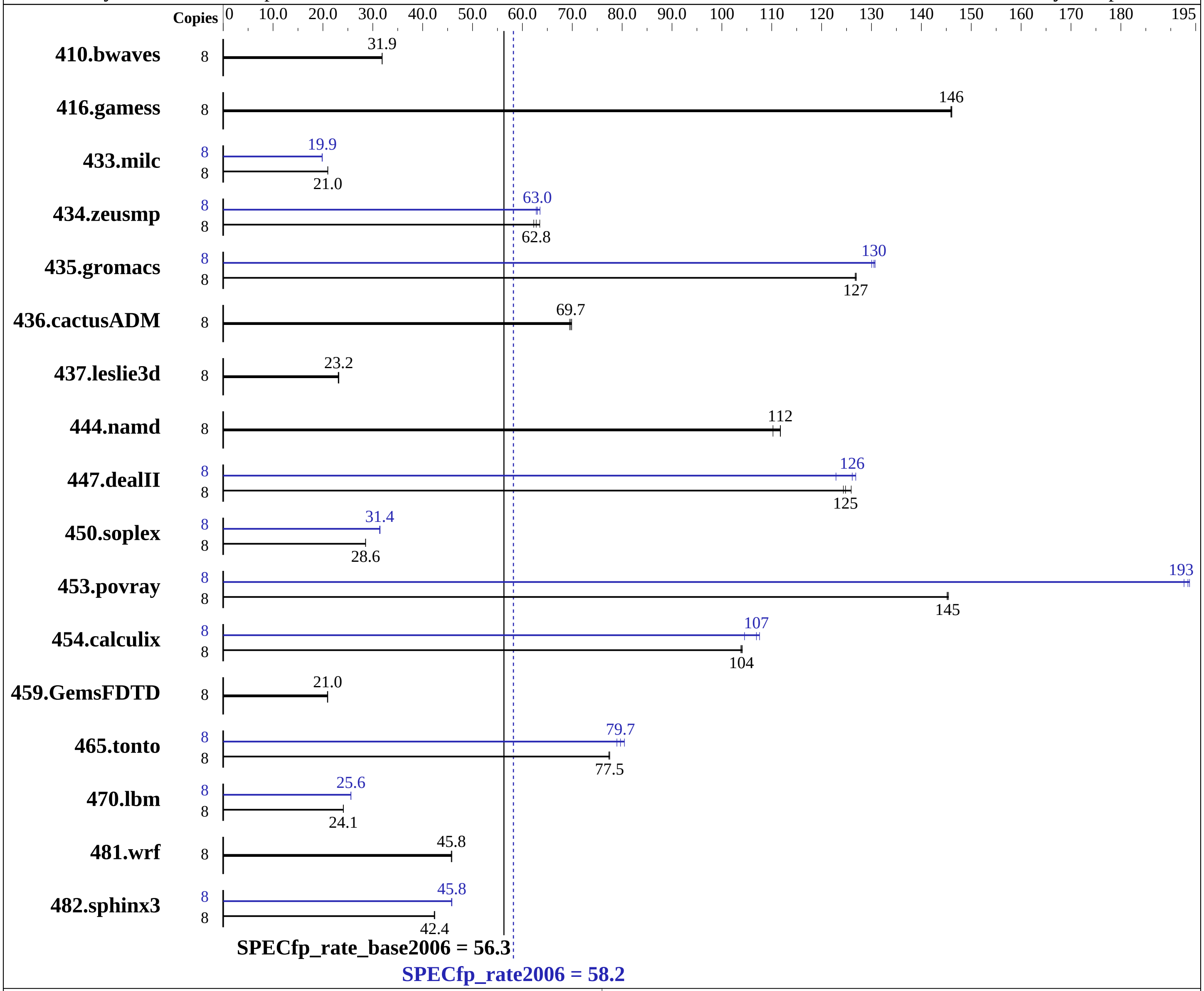
Express5800/120Bb-m6
(Intel Xeon processor X5355)

SPECfp®_rate2006 = 58.2

SPECfp_rate_base2006 = 56.3

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

Test date: Nov-2007
Hardware Availability: Jan-2007
Software Availability: Apr-2007



Hardware

CPU Name:	Intel Xeon X5355
CPU Characteristics:	2.66 GHz, 2x4 MB L2 shared, 1333 MHz bus
CPU MHz:	2666
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:	SUSE Linux Enterprise Server 10 (x86_64), Kernel 2.6.16.21-0.8-smp
Compiler:	Intel C++ Compiler for Linux32 and Linux64 version 9.1 Build 20070320 Package ID: l_cc_c_9.1.049 Intel Fortran Compiler for Linux32 and Linux64 version 9.1 Build 20070320 Package ID: l_fc_c_9.1.045
Auto Parallel:	No

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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, 10000RPM
Other Hardware: None

File System: ext2
System State: Multiuser, Runlevel 3
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base Copies	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Copies	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
410.bwaves	8	3411	31.9	**3411**	**31.9**	3408	31.9	8	3411	31.9	**3411**	**31.9**	3408	31.9
416.gamess	8	1074	146	1072	146	**1073**	**146**	8	1074	146	1072	146	**1073**	**146**
433.milc	8	3501	21.0	3498	21.0	**3500**	**21.0**	8	3694	19.9	**3698**	**19.9**	3702	19.8
434.zeusmp	8	1147	63.5	1169	62.3	**1160**	**62.8**	8	**1155**	**63.0**	1160	62.8	1146	63.5
435.gromacs	8	450	127	451	127	**450**	**127**	8	437	131	**438**	**130**	439	130
436.cactusADM	8	**1372**	**69.7**	1376	69.5	1368	69.9	8	**1372**	**69.7**	1376	69.5	1368	69.9
437.leslie3d	8	3241	23.2	**3245**	**23.2**	3261	23.1	8	3241	23.2	**3245**	**23.2**	3261	23.1
444.namd	8	574	112	582	110	**574**	**112**	8	574	112	582	110	**574**	**112**
447.dealII	8	736	124	727	126	**733**	**125**	8	**726**	**126**	721	127	745	123
450.soplex	8	**2336**	**28.6**	2337	28.6	2335	28.6	8	2127	31.4	**2124**	**31.4**	2120	31.5
453.povray	8	**293**	**145**	293	145	293	145	8	220	194	**220**	**193**	221	193
454.calculix	8	636	104	634	104	**635**	**104**	8	**617**	**107**	614	108	631	105
459.GemsFDTD	8	4044	21.0	4062	20.9	**4050**	**21.0**	8	4044	21.0	4062	20.9	**4050**	**21.0**
465.tonto	8	1015	77.5	1018	77.3	**1016**	**77.5**	8	997	78.9	978	80.5	**988**	**79.7**
470.lbm	8	**4561**	**24.1**	4560	24.1	4566	24.1	8	**4288**	**25.6**	4288	25.6	4287	25.6
481.wrf	8	**1952**	**45.8**	1948	45.9	1954	45.7	8	**1952**	**45.8**	1948	45.9	1954	45.7
482.sphinx3	8	3685	42.3	3674	42.4	**3677**	**42.4**	8	3400	45.9	3406	45.8	**3401**	**45.8**

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.
```

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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-FP-linux-flags.html

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

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

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