



SPEC[®] CFP2006 Result

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NEC Corporation

Express5800/120Rg-1
(Intel Xeon processor E5345)

SPECfp[®]_rate2006 = 55.5

SPECfp_rate_base2006 = 53.6

CPU2006 license: 9006

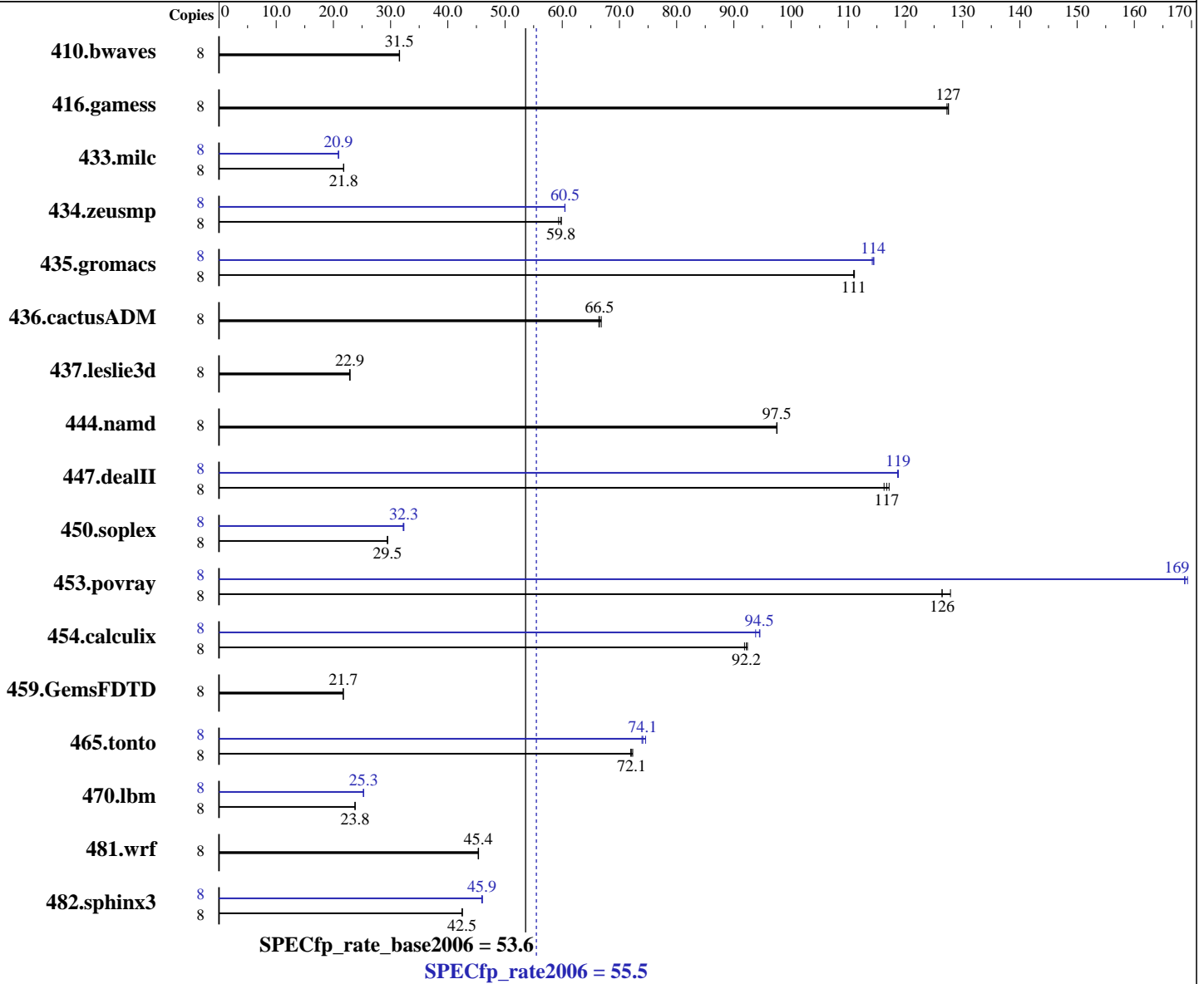
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-2007

Hardware Availability: Jan-2007

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



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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:

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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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