



SPEC[®] CFP2006 Result

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NEC Corporation

Express5800/120Bb-6
(Intel Xeon processor X5355)

SPECfp[®]_rate2006 = 53.9

SPECfp_rate_base2006 = 52.2

CPU2006 license: 9006

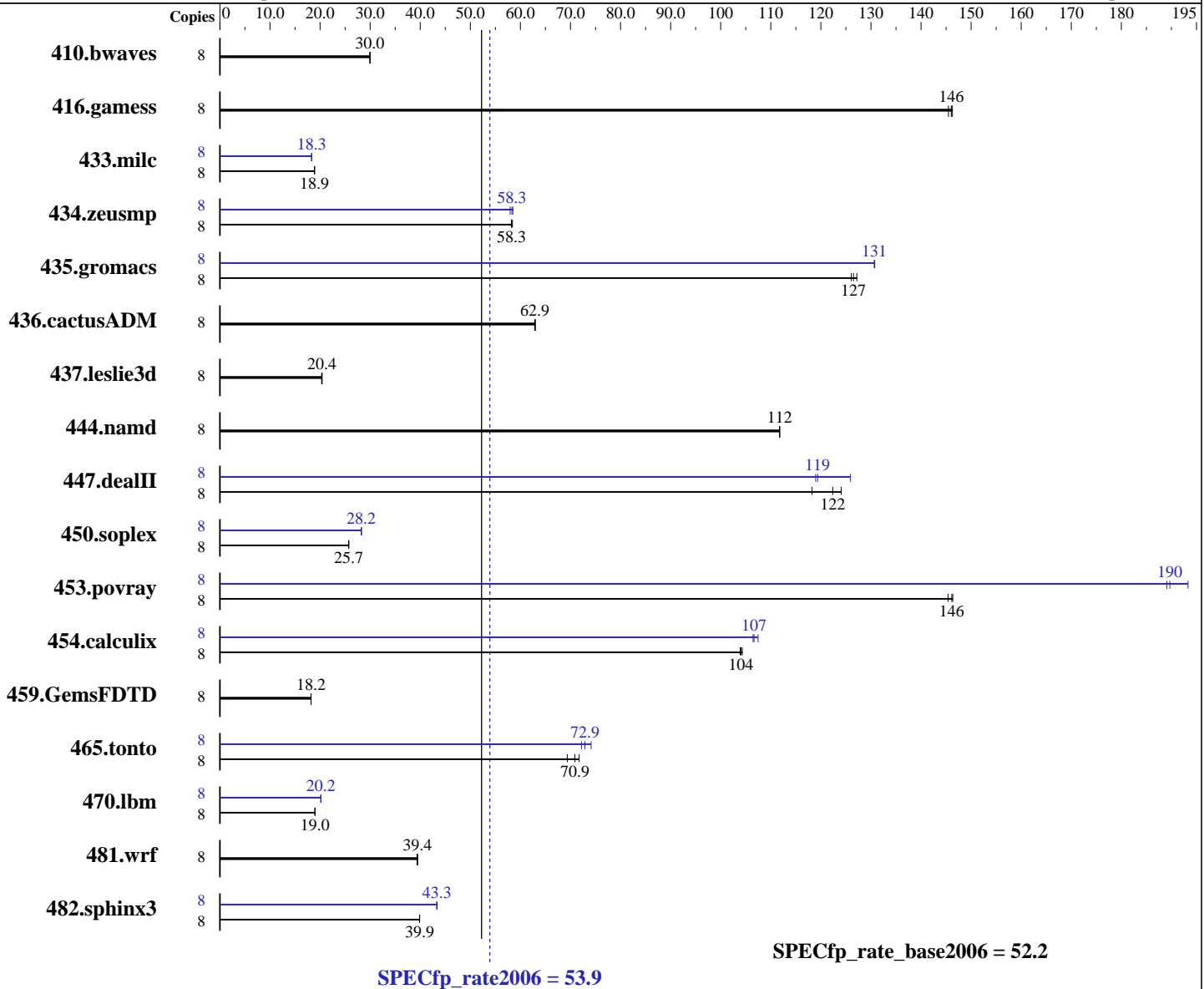
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jul-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: 64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp on an 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

Continued on next page



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L3 Cache: None
Other Cache: None
Memory: 16 GB (4x4 GB DDR2 5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem: 1x146.5 GB SAS, 10000RPM
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	<u>3629</u>	<u>30.0</u>	3630	30.0	3626	30.0	8	<u>3629</u>	<u>30.0</u>	3630	30.0	3626	30.0
416.gamess	8	1071	146	<u>1073</u>	<u>146</u>	1077	145	8	1071	146	<u>1073</u>	<u>146</u>	1077	145
433.milc	8	3886	18.9	3889	18.9	<u>3888</u>	<u>18.9</u>	8	<u>4009</u>	<u>18.3</u>	4008	18.3	4009	18.3
434.zeusmp	8	<u>1250</u>	<u>58.3</u>	1246	58.4	1251	58.2	8	1244	58.5	1256	57.9	<u>1249</u>	<u>58.3</u>
435.gromacs	8	449	127	<u>452</u>	<u>127</u>	453	126	8	437	131	437	131	<u>437</u>	<u>131</u>
436.cactusADM	8	1518	63.0	1521	62.9	<u>1520</u>	<u>62.9</u>	8	1518	63.0	1521	62.9	<u>1520</u>	<u>62.9</u>
437.leslie3d	8	<u>3689</u>	<u>20.4</u>	3703	20.3	3686	20.4	8	<u>3689</u>	<u>20.4</u>	3703	20.3	3686	20.4
444.namd	8	<u>574</u>	<u>112</u>	574	112	574	112	8	<u>574</u>	<u>112</u>	574	112	574	112
447.dealII	8	738	124	<u>748</u>	<u>122</u>	774	118	8	<u>767</u>	<u>119</u>	769	119	727	126
450.soplex	8	<u>2594</u>	<u>25.7</u>	2594	25.7	2593	25.7	8	2361	28.3	2363	28.2	<u>2363</u>	<u>28.2</u>
453.povray	8	293	145	<u>291</u>	<u>146</u>	291	146	8	225	189	<u>224</u>	<u>190</u>	220	193
454.calculix	8	<u>634</u>	<u>104</u>	635	104	633	104	8	620	106	<u>619</u>	<u>107</u>	614	107
459.GemsFDTD	8	4666	18.2	4662	18.2	<u>4663</u>	<u>18.2</u>	8	4666	18.2	4662	18.2	<u>4663</u>	<u>18.2</u>
465.tonto	8	1135	69.4	1097	71.7	<u>1111</u>	<u>70.9</u>	8	<u>1080</u>	<u>72.9</u>	1062	74.1	1090	72.2
470.lbm	8	5788	19.0	<u>5789</u>	<u>19.0</u>	5789	19.0	8	5453	20.2	5451	20.2	<u>5452</u>	<u>20.2</u>
481.wrf	8	2263	39.5	<u>2266</u>	<u>39.4</u>	2270	39.4	8	2263	39.5	<u>2266</u>	<u>39.4</u>	2270	39.4
482.sphinx3	8	3909	39.9	<u>3911</u>	<u>39.9</u>	3912	39.9	8	3602	43.3	3594	43.4	<u>3599</u>	<u>43.3</u>

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



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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.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
```

```
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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