



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/120Ri-2
(Intel Xeon processor 5110)

SPECfp®_rate2006 = 29.6

SPECfp_rate_base2006 = 28.8

CPU2006 license: 9006

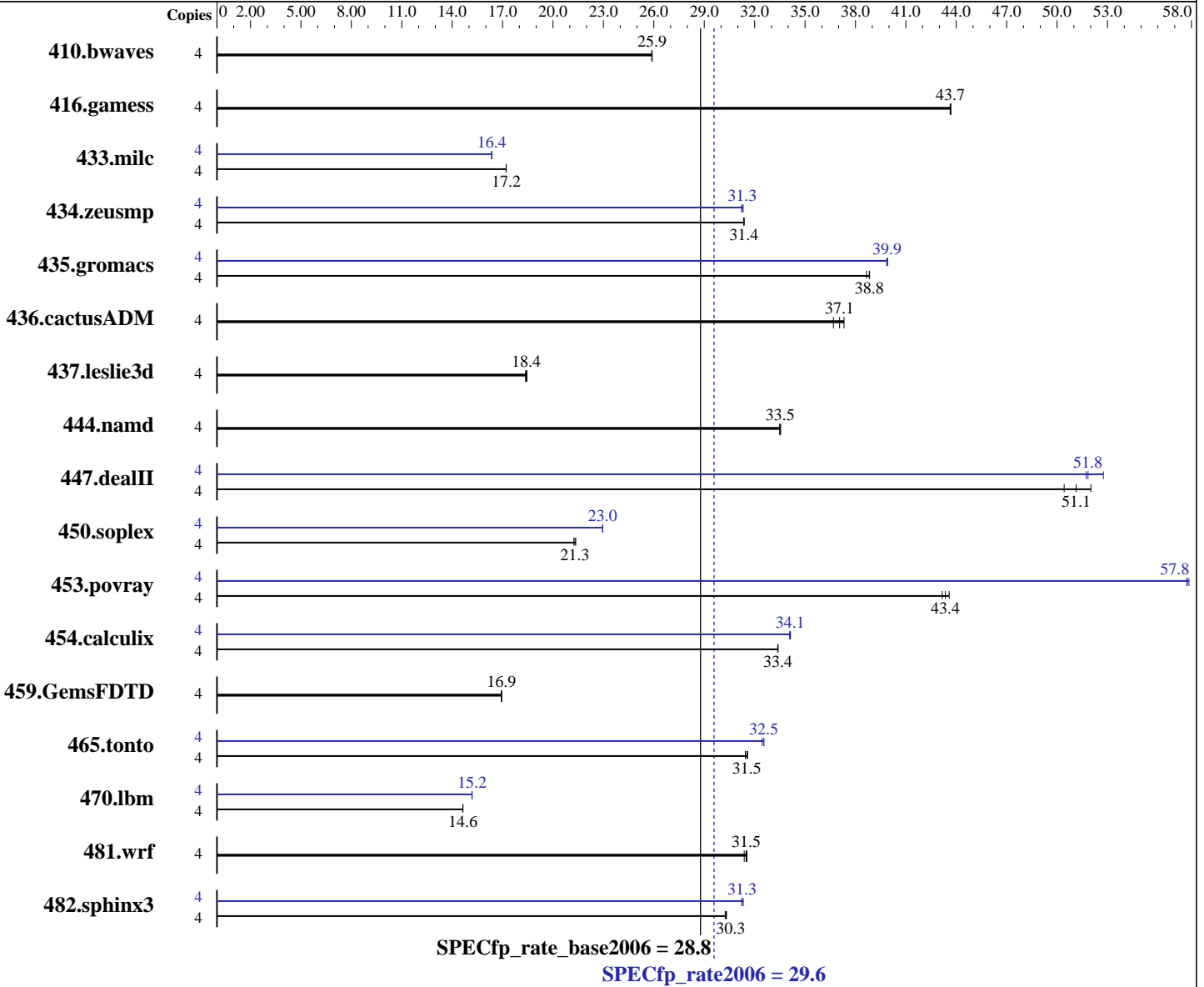
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-2007

Hardware Availability: May-2007

Software Availability: Apr-2007



Hardware

CPU Name: Intel Xeon 5110
 CPU Characteristics: 1.60 GHz, 4MB L2, 1066MHz bus
 CPU MHz: 1600
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 4 MB I+D on chip per chip

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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: ReiserFS

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L3 Cache: None
Other Cache: None
Memory: 8 GB (4x2 GB DDR2 5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem: 1x146.5 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	4	2099	25.9	2100	25.9	<u>2099</u>	<u>25.9</u>	4	2099	25.9	2100	25.9	<u>2099</u>	<u>25.9</u>
416.gamess	4	<u>1794</u>	<u>43.7</u>	1795	43.6	1793	43.7	4	<u>1794</u>	<u>43.7</u>	1795	43.6	1793	43.7
433.milc	4	<u>2133</u>	<u>17.2</u>	2133	17.2	2134	17.2	4	2245	16.4	<u>2245</u>	<u>16.4</u>	2245	16.4
434.zeusmp	4	1161	31.3	<u>1161</u>	<u>31.4</u>	1160	31.4	4	<u>1164</u>	<u>31.3</u>	1162	31.3	1166	31.2
435.gromacs	4	739	38.7	<u>736</u>	<u>38.8</u>	735	38.8	4	715	39.9	<u>716</u>	<u>39.9</u>	716	39.9
436.cactusADM	4	1281	37.3	<u>1290</u>	<u>37.1</u>	1303	36.7	4	1281	37.3	<u>1290</u>	<u>37.1</u>	1303	36.7
437.leslie3d	4	2038	18.4	<u>2043</u>	<u>18.4</u>	2047	18.4	4	2038	18.4	<u>2043</u>	<u>18.4</u>	2047	18.4
444.namd	4	<u>957</u>	<u>33.5</u>	956	33.6	958	33.5	4	<u>957</u>	<u>33.5</u>	956	33.6	958	33.5
447.dealII	4	880	52.0	908	50.4	<u>895</u>	<u>51.1</u>	4	885	51.7	<u>883</u>	<u>51.8</u>	867	52.8
450.soplex	4	1562	21.4	1571	21.2	<u>1566</u>	<u>21.3</u>	4	1453	23.0	<u>1453</u>	<u>23.0</u>	1454	22.9
453.povray	4	493	43.2	<u>491</u>	<u>43.4</u>	488	43.6	4	369	57.7	<u>368</u>	<u>57.8</u>	368	57.9
454.calculix	4	<u>989</u>	<u>33.4</u>	989	33.4	988	33.4	4	967	34.1	968	34.1	<u>967</u>	<u>34.1</u>
459.GemsFDTD	4	2505	16.9	2509	16.9	<u>2505</u>	<u>16.9</u>	4	2505	16.9	2509	16.9	<u>2505</u>	<u>16.9</u>
465.tonto	4	1252	31.4	1246	31.6	<u>1248</u>	<u>31.5</u>	4	1209	32.6	1213	32.4	<u>1209</u>	<u>32.5</u>
470.lbm	4	<u>3755</u>	<u>14.6</u>	3753	14.6	3757	14.6	4	<u>3620</u>	<u>15.2</u>	3621	15.2	3618	15.2
481.wrf	4	1416	31.5	1424	31.4	<u>1418</u>	<u>31.5</u>	4	1416	31.5	1424	31.4	<u>1418</u>	<u>31.5</u>
482.sphinx3	4	2577	30.2	2571	30.3	<u>2572</u>	<u>30.3</u>	4	2496	31.2	<u>2494</u>	<u>31.3</u>	2489	31.3

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 1066 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 and the Express5800/120Ri-2 models are
electronically equivalent.
The results have been measured on a Express5800/120Ri-2 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.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.20090714.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/NEC-ic91-linux-flags.20090714.xml>

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

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