SPEC® CFP2006 Result

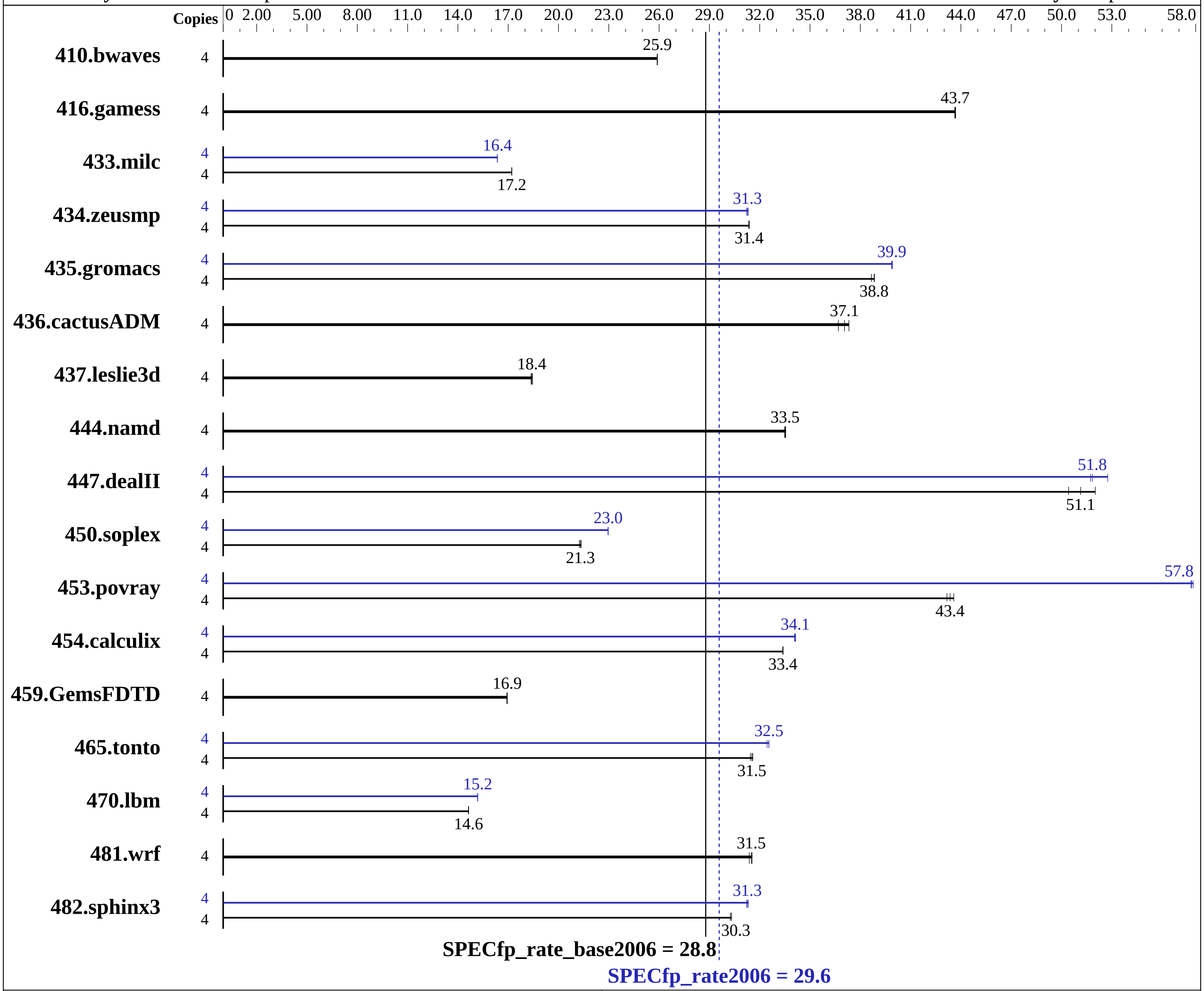
NEC Corporation

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

SPECfp®_rate2006 = 29.6

SPECfp_rate_base2006 = 28.8

CPU2006 license:	9006	**Test date:**	Jun-2007
Test sponsor:	NEC Corporation	**Hardware Availability:**	May-2007
Tested by:	NEC Corporation	**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	**2099**	**25.9**	4	2099	25.9	2100	25.9	**2099**	**25.9**
416.gamess	4	**1794**	**43.7**	1795	43.6	1793	43.7	4	**1794**	**43.7**	1795	43.6	1793	43.7
433.milc	4	**2133**	**17.2**	2133	17.2	2134	17.2	4	2245	16.4	**2245**	**16.4**	2245	16.4
434.zeusmp	4	1161	31.3	**1161**	**31.4**	1160	31.4	4	**1164**	**31.3**	1162	31.3	1166	31.2
435.gromacs	4	739	38.7	**736**	**38.8**	735	38.8	4	715	39.9	**716**	**39.9**	716	39.9
436.cactusADM	4	1281	37.3	**1290**	**37.1**	1303	36.7	4	1281	37.3	**1290**	**37.1**	1303	36.7
437.leslie3d	4	2038	18.4	**2043**	**18.4**	2047	18.4	4	2038	18.4	**2043**	**18.4**	2047	18.4
444.namd	4	**957**	**33.5**	956	33.6	958	33.5	4	**957**	**33.5**	956	33.6	958	33.5
447.dealII	4	880	52.0	908	50.4	**895**	**51.1**	4	885	51.7	**883**	**51.8**	867	52.8
450.soplex	4	1562	21.4	1571	21.2	**1566**	**21.3**	4	1453	23.0	**1453**	**23.0**	1454	22.9
453.povray	4	493	43.2	**491**	**43.4**	488	43.6	4	369	57.7	**368**	**57.8**	368	57.9
454.calculix	4	**989**	**33.4**	989	33.4	988	33.4	4	967	34.1	968	34.1	**967**	**34.1**
459.GemsFDTD	4	2505	16.9	2509	16.9	**2505**	**16.9**	4	2505	16.9	2509	16.9	**2505**	**16.9**
465.tonto	4	1252	31.4	1246	31.6	**1248**	**31.5**	4	1209	32.6	1213	32.4	**1209**	**32.5**
470.lbm	4	**3755**	**14.6**	3753	14.6	3757	14.6	4	**3620**	**15.2**	3621	15.2	3618	15.2
481.wrf	4	1416	31.5	1424	31.4	**1418**	**31.5**	4	1416	31.5	1424	31.4	**1418**	**31.5**
482.sphinx3	4	2577	30.2	2571	30.3	**2572**	**30.3**	4	2496	31.2	**2494**	**31.3**	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.
```

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.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

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

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