



SPEC® CFP2006 Result

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NEC Corporation

Express5800/i120Rg-1
(Intel Xeon processor L5310)

SPECfp®_rate2006 = 41.8

SPECfp_rate_base2006 = 40.5

CPU2006 license: 9006

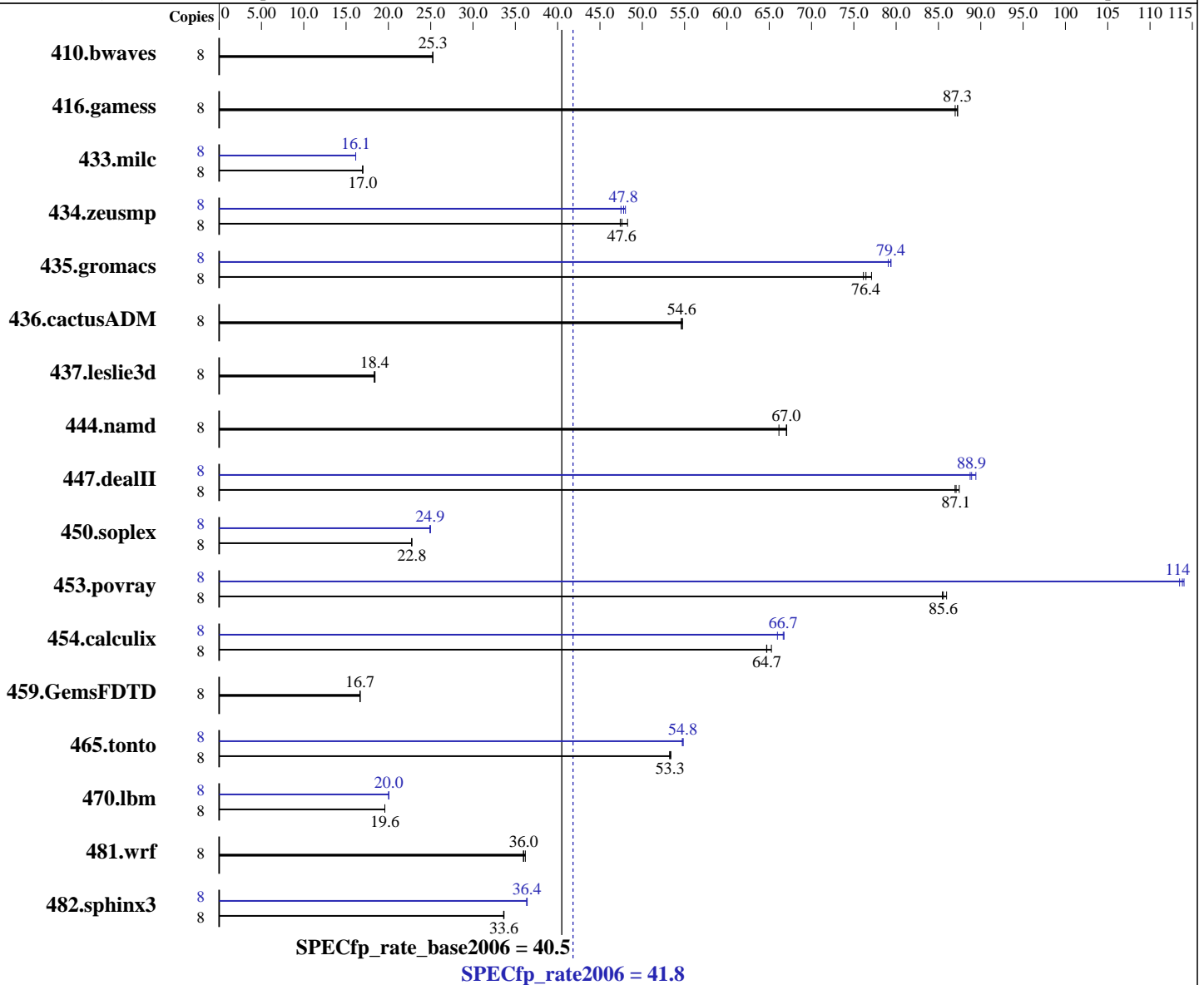
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Aug-2007

Hardware Availability: Aug-2007

Software Availability: Apr-2007



Hardware

CPU Name: Intel Xeon L5310
 CPU Characteristics: 1.60 GHz, 2x4 MB L2 shared, 1066 MHz bus
 CPU MHz: 1600
 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

Continued on next page

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

Continued on next page



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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: 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	8	4306	25.2	4305	25.3	4305	25.3	8	4306	25.2	4305	25.3	4305	25.3
416.gamess	8	1801	87.0	1795	87.3	1795	87.3	8	1801	87.0	1795	87.3	1795	87.3
433.milc	8	4328	17.0	4328	17.0	4332	17.0	8	4551	16.1	4551	16.1	4552	16.1
434.zeusmp	8	1530	47.6	1508	48.3	1536	47.4	8	1523	47.8	1516	48.0	1533	47.5
435.gromacs	8	747	76.4	741	77.1	750	76.1	8	720	79.4	719	79.4	722	79.1
436.cactusADM	8	1751	54.6	1749	54.6	1746	54.8	8	1751	54.6	1749	54.6	1746	54.8
437.leslie3d	8	4082	18.4	4104	18.3	4095	18.4	8	4082	18.4	4104	18.3	4095	18.4
444.namd	8	970	66.1	957	67.0	957	67.1	8	970	66.1	957	67.0	957	67.1
447.dealII	8	1051	87.1	1046	87.5	1052	87.0	8	1023	89.4	1029	88.9	1031	88.7
450.soplex	8	2931	22.8	2934	22.7	2931	22.8	8	2678	24.9	2676	24.9	2672	25.0
453.povray	8	495	86.0	498	85.5	497	85.6	8	375	113	374	114	373	114
454.calculix	8	1020	64.7	1020	64.7	1011	65.3	8	989	66.8	1000	66.0	990	66.7
459.GemsFDTD	8	5104	16.6	5094	16.7	5095	16.7	8	5104	16.6	5094	16.7	5095	16.7
465.tonto	8	1479	53.2	1477	53.3	1475	53.4	8	1436	54.8	1436	54.8	1438	54.7
470.lbm	8	5614	19.6	5615	19.6	5613	19.6	8	5485	20.0	5484	20.0	5483	20.0
481.wrf	8	2483	36.0	2470	36.2	2485	36.0	8	2483	36.0	2470	36.2	2485	36.0
482.sphinx3	8	4632	33.7	4634	33.6	4639	33.6	8	4286	36.4	4283	36.4	4292	36.3

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.



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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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