SPEC® CFP2006 Result
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NEC Corporation

Express5800/110Rh-1
(Intel Xeon processor 3040)

$SPECfp^®\_rate2006 =$ 20.3
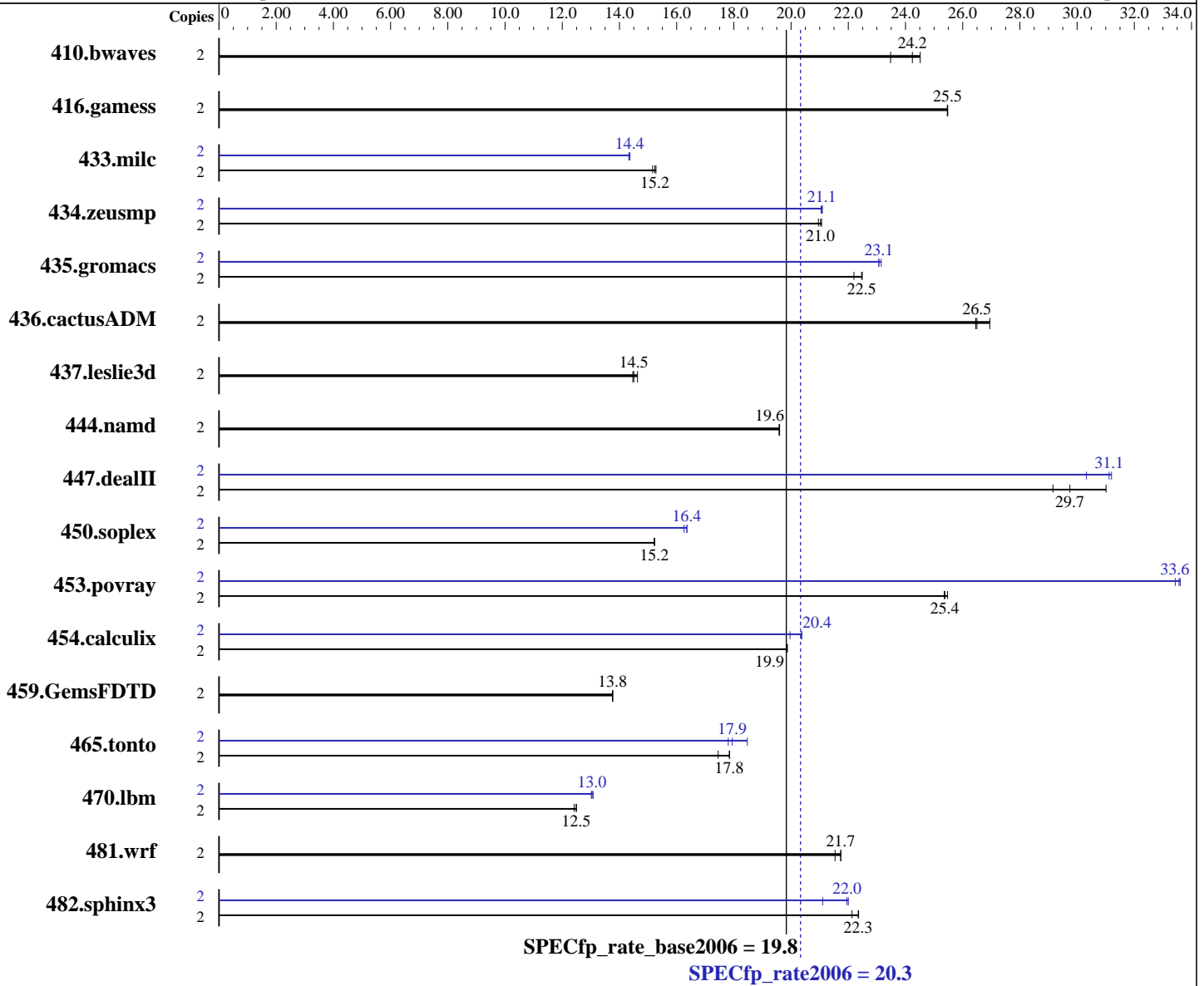
$SPECfp\_rate\_base2006 =$ 19.8

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

Test date: Nov-2007
Hardware Availability: Nov-2006
Software Availability: Apr-2007

SPECfp_rate_base2006 = 19.8

SPECfp_rate2006 = 20.3

Hardware

CPU Name: Intel Xeon 3040
CPU Characteristics: 1.86 GHz, 2 MB L2, 1066 MHz bus
CPU MHz: 1866
FPU: Integrated
CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
CPU(s) orderable: 1 chip
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 2 MB I+D on chip per chip

Continued on next page

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64), Kernel 2.6.16.21-0.8-smp
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:	4 GB (4x1 GB PC2-5300E, 2 rank, CL5-5-5, ECC)
Disk Subsystem:	1x80 GB SATAII, 7200RPM
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	2	1158	23.5	1109	24.5	**1121**	**24.2**	2	1158	23.5	1109	24.5	**1121**	**24.2**
416.gamess	2	1537	25.5	**1537**	**25.5**	1538	25.5	2	1537	25.5	**1537**	**25.5**	1538	25.5
433.milc	2	1211	15.2	1202	15.3	**1205**	**15.2**	2	1282	14.3	1278	14.4	**1279**	**14.4**
434.zeusmp	2	869	21.0	864	21.1	**865**	**21.0**	2	**864**	**21.1**	863	21.1	865	21.1
435.gromacs	2	635	22.5	**636**	**22.5**	643	22.2	2	619	23.1	617	23.2	**619**	**23.1**
436.cactusADM	2	**902**	**26.5**	903	26.5	887	26.9	2	**902**	**26.5**	903	26.5	887	26.9
437.leslie3d	2	1300	14.5	**1296**	**14.5**	1285	14.6	2	1300	14.5	**1296**	**14.5**	1285	14.6
444.namd	2	**819**	**19.6**	818	19.6	819	19.6	2	**819**	**19.6**	818	19.6	819	19.6
447.dealII	2	**769**	**29.7**	738	31.0	785	29.2	2	754	30.3	733	31.2	**735**	**31.1**
450.soplex	2	1096	15.2	**1096**	**15.2**	1095	15.2	2	1026	16.3	**1020**	**16.4**	1020	16.4
453.povray	2	418	25.5	**419**	**25.4**	420	25.4	2	**317**	**33.6**	317	33.6	318	33.4
454.calculix	2	**831**	**19.9**	830	19.9	831	19.8	2	827	20.0	**810**	**20.4**	810	20.4
459.GemsFDTD	2	1541	13.8	**1542**	**13.8**	1543	13.8	2	1541	13.8	**1542**	**13.8**	1543	13.8
465.tonto	2	1128	17.5	**1103**	**17.8**	1103	17.8	2	**1097**	**17.9**	1105	17.8	1066	18.5
470.lbm	2	2213	12.4	**2200**	**12.5**	2199	12.5	2	2111	13.0	**2107**	**13.0**	2101	13.1
481.wrf	2	1037	21.5	**1028**	**21.7**	1028	21.7	2	1037	21.5	**1028**	**21.7**	1028	21.7
482.sphinx3	2	1761	22.1	**1744**	**22.3**	1743	22.4	2	**1776**	**22.0**	1847	21.1	1772	22.0

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-FP-linux-flags.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/NEC-ic91-FP-linux-flags.xml

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

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 13:49:21 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 December 2007.