SPEC® CFP2006 Result
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NEC Corporation

Express5800/120Ri-2
(Intel Xeon processor X5355)

$SPECfp®\_rate2006 =$ 58.1
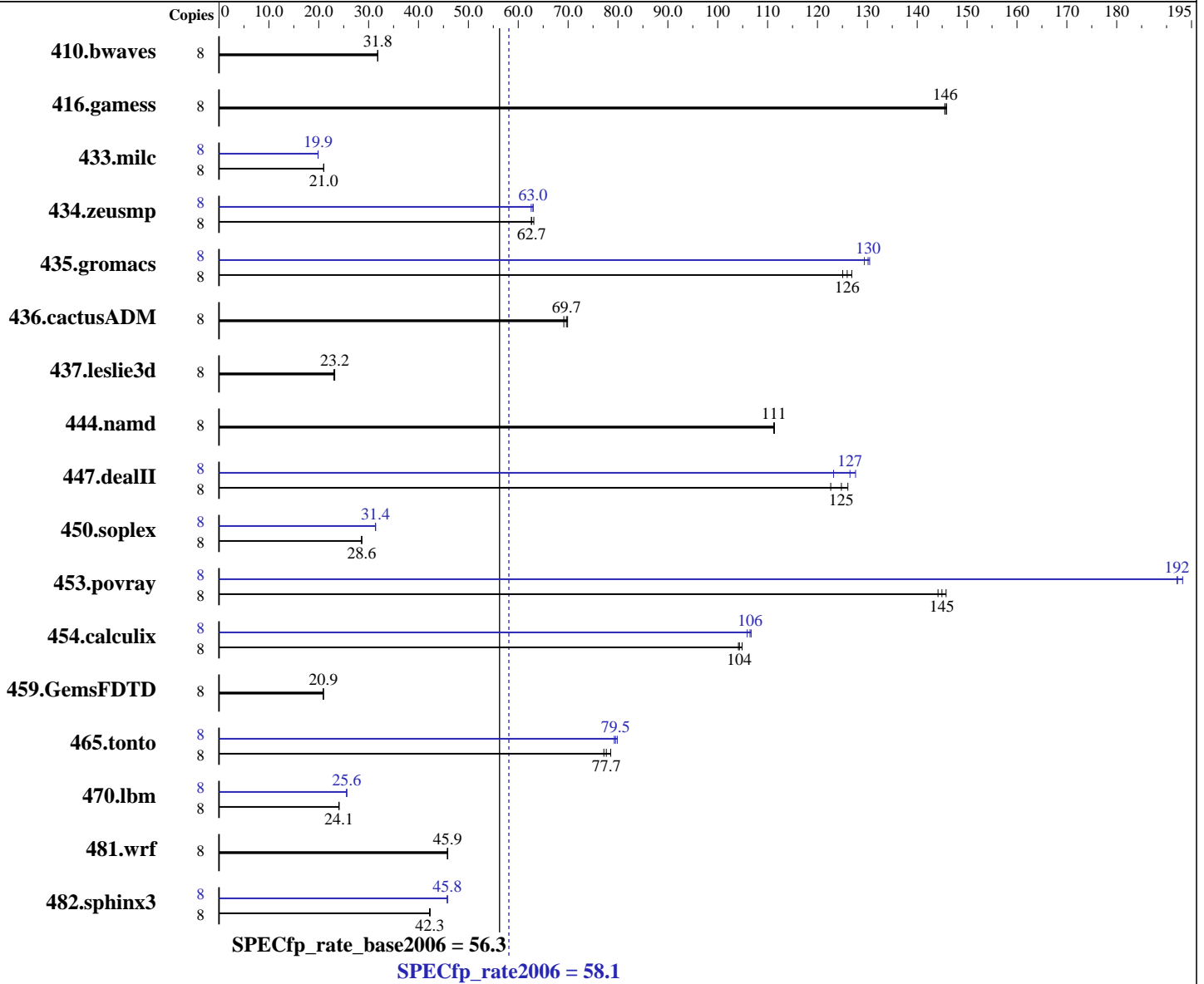
$SPECfp\_rate\_base2006 =$ 56.3

CPU2006 license: 9006

Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-2007

Hardware Availability: Jan-2007

Software Availability: Apr-2007

Benchmark	Copies	Value
410.bwaves	8	31.8
416.gamess	8	146
433.milc	8 / 8	19.9 / 21.0
434.zeusmp	8 / 8	63.0 / 62.7
435.gromacs	8 / 8	130 / 126
436.cactusADM	8	69.7
437.leslie3d	8	23.2
444.namd	8	111
447.dealII	8 / 8	127 / 125
450.soplex	8 / 8	31.4 / 28.6
453.povray	8 / 8	192 / 145
454.calculix	8 / 8	106 / 104
459.GemsFDTD	8	20.9
465.tonto	8 / 8	79.5 / 77.7
470.lbm	8 / 8	25.6 / 24.1
481.wrf	8	45.9
482.sphinx3	8 / 8	45.8 / 42.3

SPECfp_rate_base2006 = 56.3

SPECfp_rate2006 = 58.1

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

Continued on next page

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

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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:	1x73.2 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	3416	31.8	3414	31.8	**3416**	**31.8**	8	3416	31.8	3414	31.8	**3416**	**31.8**
416.gamess	8	**1076**	**146**	1074	146	1076	146	8	**1076**	**146**	1074	146	1076	146
433.milc	8	**3498**	**21.0**	3494	21.0	3498	21.0	8	3695	19.9	3697	19.9	**3696**	**19.9**
434.zeusmp	8	1153	63.1	**1162**	**62.7**	1162	62.7	8	1163	62.6	1156	63.0	**1156**	**63.0**
435.gromacs	8	457	125	450	127	**453**	**126**	8	438	130	441	129	**439**	**130**
436.cactusADM	8	1383	69.1	1368	69.9	**1372**	**69.7**	8	1383	69.1	1368	69.9	**1372**	**69.7**
437.leslie3d	8	**3241**	**23.2**	3269	23.0	3240	23.2	8	**3241**	**23.2**	3269	23.0	3240	23.2
444.namd	8	577	111	**577**	**111**	576	111	8	577	111	**577**	**111**	576	111
447.dealII	8	746	123	**733**	**125**	726	126	8	**723**	**127**	717	128	743	123
450.soplex	8	2330	28.6	**2333**	**28.6**	2334	28.6	8	2127	31.4	2124	31.4	**2126**	**31.4**
453.povray	8	292	146	295	144	**294**	**145**	8	220	193	**221**	**192**	222	192
454.calculix	8	629	105	**632**	**104**	634	104	8	623	106	**620**	**106**	619	107
459.GemsFDTD	8	4058	20.9	**4057**	**20.9**	4054	20.9	8	4058	20.9	**4057**	**20.9**	4054	20.9
465.tonto	8	1020	77.2	**1014**	**77.7**	1002	78.5	8	986	79.9	993	79.3	**990**	**79.5**
470.lbm	8	**4569**	**24.1**	4570	24.1	4567	24.1	8	4293	25.6	4297	25.6	**4293**	**25.6**
481.wrf	8	1952	45.8	**1949**	**45.9**	1948	45.9	8	1952	45.8	**1949**	**45.9**	1948	45.9
482.sphinx3	8	3685	42.3	3694	42.2	**3687**	**42.3**	8	3404	45.8	**3405**	**45.8**	3407	45.8

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.

    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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Test date: Jun-2007
Hardware Availability: Jan-2007
Software Availability: Apr-2007

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.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.

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 13:01:06 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 10 July 2007.