SPEC® CFP2006 Result
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NEC Corporation

Express5800/120Gd
(Intel Xeon E5205)

$SPECfp^®\_rate2006 =$ 20.2

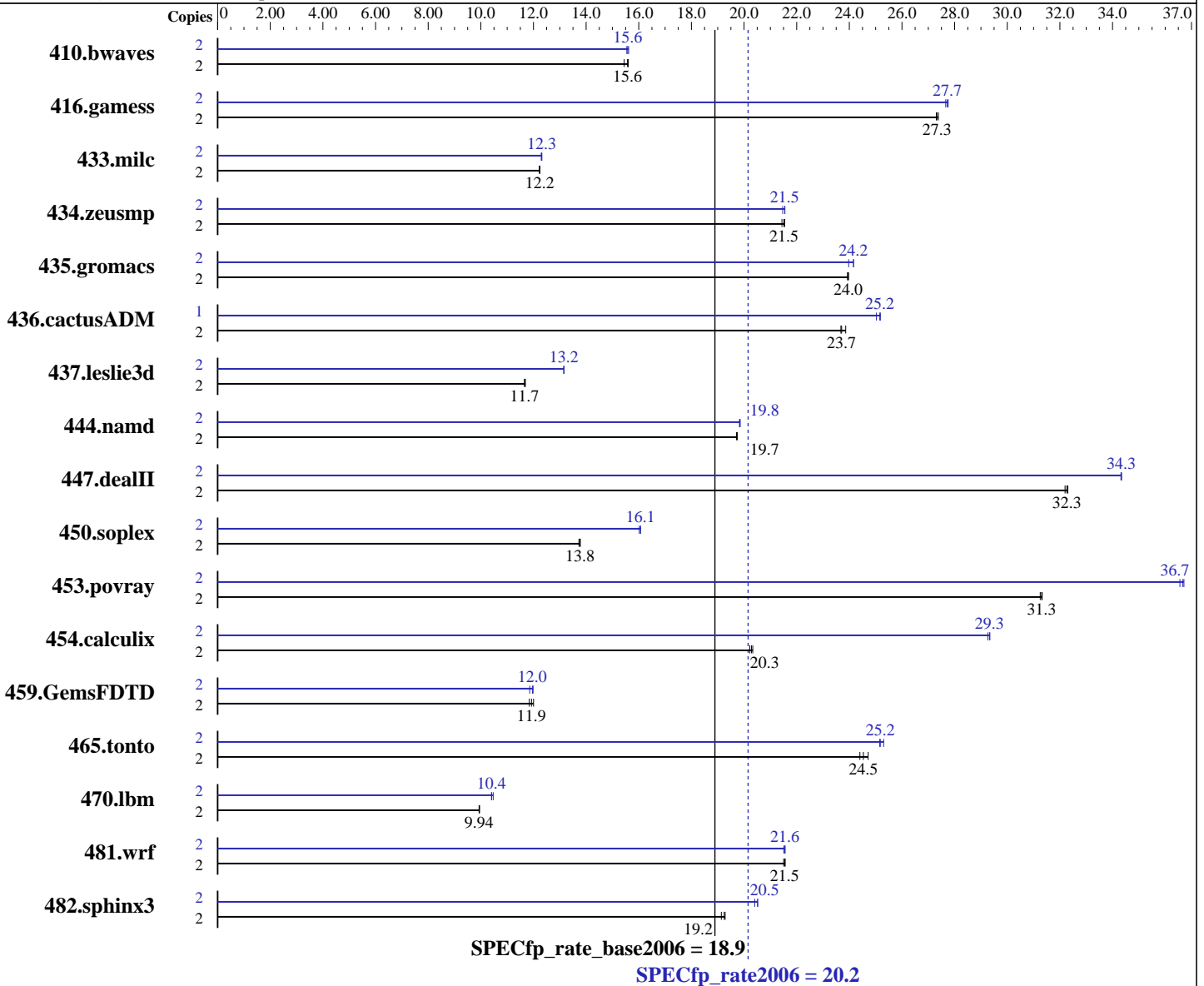SPECfp_rate_base2006 = 18.9

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

Test date: May-2008
Hardware Availability: Apr-2008
Software Availability: Nov-2007

SPECfp_rate_base2006 = 18.9

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Hardware
CPU Name: Intel Xeon E5205
CPU Characteristics: 1.86 GHz, 6 MB L2, 1066 MHz bus
CPU MHz: 1867
FPU: Integrated
CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
CPU(s) orderable: 1,2 chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 6 MB I+D on chip per chip
Continued on next page

Software
Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64
version 10.1 Build 20070913 Package ID: l_cc_p_10.1.008, l_fc_p_10.1.008
Auto Parallel: Yes
File System: ext2
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L3 Cache:	None
Other Cache:	None
Memory:	8 GB (8x1 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem:	1x250 GB SATAII, 7200RPM
Other Hardware:	None

System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	binutils-2.17.tar.gz, Version 2.17

Results Table

Benchmark	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2	1742	15.6	**1745**	**15.6**	1760	15.4	2	1748	15.5	1741	15.6	**1745**	**15.6**
416.gamess	2	1434	27.3	**1433**	**27.3**	1430	27.4	2	1411	27.8	**1413**	**27.7**	1416	27.7
433.milc	2	1502	12.2	**1500**	**12.2**	1499	12.2	2	1493	12.3	**1491**	**12.3**	1491	12.3
434.zeusmp	2	849	21.4	845	21.5	**846**	**21.5**	2	**845**	**21.5**	848	21.5	844	21.6
435.gromacs	2	596	24.0	**596**	**24.0**	597	23.9	2	**591**	**24.2**	591	24.2	596	24.0
436.cactusADM	2	1002	23.9	1009	23.7	**1008**	**23.7**	1	477	25.0	**475**	**25.2**	475	25.2
437.leslie3d	2	1612	11.7	**1612**	**11.7**	1608	11.7	2	**1429**	**13.2**	1430	13.2	1428	13.2
444.namd	2	**813**	**19.7**	814	19.7	813	19.7	2	808	19.9	809	19.8	**808**	**19.8**
447.dealII	2	711	32.2	708	32.3	**709**	**32.3**	2	**666**	**34.3**	666	34.3	667	34.3
450.soplex	2	**1211**	**13.8**	1215	13.7	1211	13.8	2	1041	16.0	**1038**	**16.1**	1038	16.1
453.povray	2	340	31.3	340	31.3	**340**	**31.3**	2	290	36.7	291	36.6	**290**	**36.7**
454.calculix	2	816	20.2	**814**	**20.3**	812	20.3	2	**563**	**29.3**	562	29.3	564	29.3
459.GemsFDTD	2	1792	11.8	**1780**	**11.9**	1768	12.0	2	1790	11.9	1771	12.0	**1774**	**12.0**
465.tonto	2	796	24.7	807	24.4	**802**	**24.5**	2	778	25.3	782	25.2	**782**	**25.2**
470.lbm	2	2761	9.95	**2766**	**9.94**	2766	9.93	2	2625	10.5	2641	10.4	**2640**	**10.4**
481.wrf	2	**1037**	**21.5**	1039	21.5	1036	21.6	2	1039	21.5	1036	21.6	**1036**	**21.6**
482.sphinx3	2	**2025**	**19.2**	2022	19.3	2037	19.1	2	1900	20.5	1910	20.4	**1900**	**20.5**

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
 OMP_NUM_THREADS set to number of cores
```

Platform Notes

```
Bios settings:
Hardware Prefetcher:        Enabled
Adjacent Cache Line Prefetch: Enabled
Intel SpeedStep Technology:   Disabled
```

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General Notes

```
All benchmarks compiled in 64-bit mode except 437.leslie3d,
450.soplex, 470.lbm and 482.sphinx3, for peak, are
compiled in 32-bit mode
```

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
```

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Base Optimization Flags (Continued)

Fortran benchmarks:
```
-fast
```

Benchmarks using both Fortran and C:
```
-fast
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

    433.milc: `icc`

C++ benchmarks (except as noted below):
```
icpc
```

    450.soplex: `/opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib`
            `-I/opt/intel/cc/10.1.008/include`

Fortran benchmarks (except as noted below):
```
ifort
```

    437.leslie3d: `/opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib`
            `-I/opt/intel/fc/10.1.008/include`

Benchmarks using both Fortran and C:
```
icc ifort
```

Peak 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
      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
```

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Peak Optimization Flags

C benchmarks:

>   433.milc: `-prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias`
>   `-auto-ilp32`

>   470.lbm: `-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2`
>   `-scalar-rep- -prefetch -opt-malloc-options=3`

>   482.sphinx3: `-fast -unroll2`

C++ benchmarks:

>   444.namd: `-prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias`
>   `-auto-ilp32`

>   447.dealII: `-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2`
>   `-ansi-alias -scalar-rep-`

>   450.soplex: `-prof-gen(pass 1) -prof-use(pass 2) -fast`
>   `-opt-malloc-options=3`

>   453.povray: `-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4`
>   `-ansi-alias`

Fortran benchmarks:

>   410.bwaves: `-fast -prefetch`

>   416.gamess: `-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0`
>   `-ansi-alias -scalar-rep-`

>   434.zeusmp: `-prof-gen(pass 1) -prof-use(pass 2) -fast`

>   437.leslie3d: `-prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch`
>   `-opt-malloc-options=3`

> 459.GemsFDTD: `-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0`
>   `-prefetch`

>   465.tonto: `-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto`

Benchmarks using both Fortran and C:

>   435.gromacs: `-prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch`
>   `-auto-ilp32`

> 436.cactusADM: `-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2`
>   `-prefetch -parallel -auto-ilp32`

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Peak Optimization Flags (Continued)

454.calculix: `-fast -unroll-aggressive -auto-ilp32`

481.wrf: `-fast -auto-ilp32`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-FP-intel64-linux-flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-FP-intel64-linux-flags.xml`

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

Tested with SPEC CPU2006 v1.0.
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