



SPEC[®] CFP2006 Result

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IBM Corporation

SPECfp[®]_rate2006 = 19.5

IBM BladeCenter HS12 (Intel Core 2 Duo E6305)

SPECfp_rate_base2006 = 19.3

CPU2006 license: 11

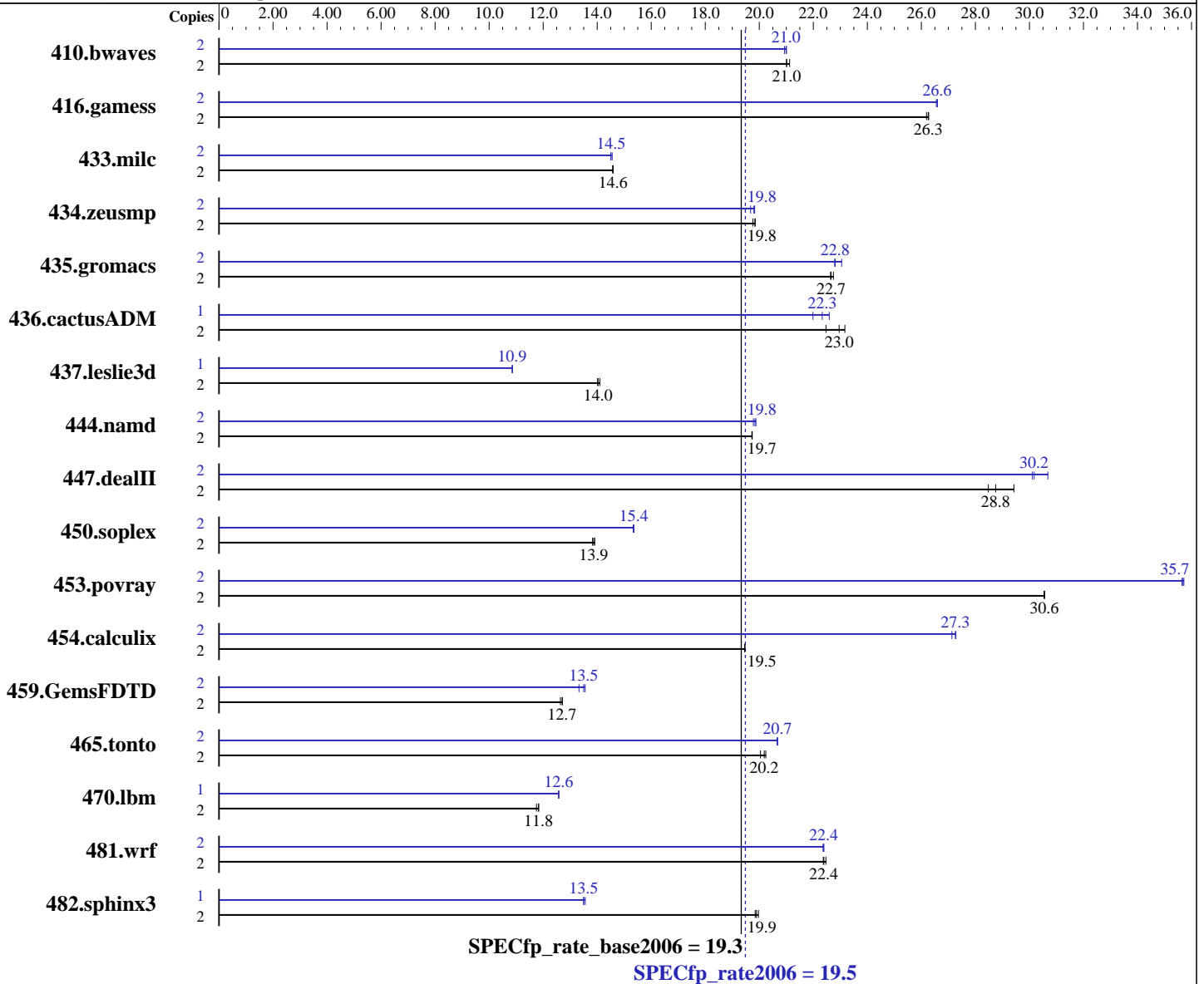
Test date: Apr-2008

Test sponsor: IBM Corporation

Hardware Availability: May-2008

Tested by: IBM Corporation

Software Availability: Nov-2007



Hardware

CPU Name: Intel Core 2 Duo E6305
 CPU Characteristics: 1066MHz system 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

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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 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008, l_fc_p_10.1.008
 Auto Parallel: Yes
 File System: ReiserFS
 System State: Multi-user, run level 3
 Base Pointers: 64-bit

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L3 Cache: None
Other Cache: None
Memory: 8 GB (4 x 2 GB DDR2-5300 ECC)
Disk Subsystem: 1 x 73 GB SAS, 10000 RPM
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: Binutils 2.17.50.0.15

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2	<u>1294</u>	<u>21.0</u>	1294	21.0	1287	21.1	2	1298	20.9	<u>1295</u>	<u>21.0</u>	1294	21.0
416.gamess	2	<u>1492</u>	<u>26.3</u>	1495	26.2	1491	26.3	2	<u>1473</u>	<u>26.6</u>	1475	26.6	1472	26.6
433.milc	2	1258	14.6	1260	14.6	<u>1259</u>	<u>14.6</u>	2	1266	14.5	1261	14.6	<u>1265</u>	<u>14.5</u>
434.zeusmp	2	921	19.8	<u>917</u>	<u>19.8</u>	917	19.8	2	918	19.8	<u>919</u>	<u>19.8</u>	925	19.7
435.gromacs	2	628	22.7	<u>630</u>	<u>22.7</u>	631	22.6	2	627	22.8	620	23.1	<u>626</u>	<u>22.8</u>
436.cactusADM	2	1032	23.2	1064	22.5	<u>1041</u>	<u>23.0</u>	1	543	22.0	<u>535</u>	<u>22.3</u>	529	22.6
437.leslie3d	2	1341	14.0	1333	14.1	<u>1340</u>	<u>14.0</u>	1	<u>866</u>	<u>10.9</u>	865	10.9	866	10.9
444.namd	2	813	19.7	813	19.7	<u>813</u>	<u>19.7</u>	2	807	19.9	<u>808</u>	<u>19.8</u>	811	19.8
447.dealII	2	778	29.4	803	28.5	<u>796</u>	<u>28.8</u>	2	746	30.7	760	30.1	<u>758</u>	<u>30.2</u>
450.soplex	2	1206	13.8	1199	13.9	<u>1203</u>	<u>13.9</u>	2	1088	15.3	1086	15.4	<u>1086</u>	<u>15.4</u>
453.povray	2	348	30.5	<u>348</u>	<u>30.6</u>	348	30.6	2	<u>298</u>	<u>35.7</u>	299	35.6	298	35.7
454.calculix	2	848	19.5	<u>848</u>	<u>19.5</u>	847	19.5	2	608	27.1	605	27.3	<u>605</u>	<u>27.3</u>
459.GemsFDTD	2	<u>1671</u>	<u>12.7</u>	1669	12.7	1679	12.6	2	1592	13.3	<u>1572</u>	<u>13.5</u>	1565	13.6
465.tonto	2	972	20.2	982	20.0	<u>975</u>	<u>20.2</u>	2	<u>952</u>	<u>20.7</u>	952	20.7	953	20.7
470.lbm	2	2338	11.8	2322	11.8	<u>2323</u>	<u>11.8</u>	1	1093	12.6	<u>1093</u>	<u>12.6</u>	1092	12.6
481.wrf	2	994	22.5	999	22.4	<u>998</u>	<u>22.4</u>	2	<u>998</u>	<u>22.4</u>	998	22.4	999	22.4
482.sphinx3	2	1964	19.8	1952	20.0	<u>1959</u>	<u>19.9</u>	1	<u>1444</u>	<u>13.5</u>	1444	13.5	1437	13.6

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

General Notes

All benchmarks compiled in 64-bit mode except 437.leslie3d, 450.soplex, 470.lbm and 482.sphinx3, at peak, are compiled in 32-bit mode
Hardware Sector Prefetch Enabled and Adjacent Sector Prefetch Disabled
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to 64M
taskset utility used to bind CPU(s) to processes

Base Compiler Invocation

C benchmarks:
icc

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Base Compiler Invocation (Continued)

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 (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.deall: -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 -fno-alias
-auto-ilp32
```

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

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Peak Optimization Flags (Continued)

482.sphinx3: -fast -unroll2

C++ benchmarks:

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

447.dealIII: -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

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/Intel-ic10.1-fp-linux64-revC.20090713.html>



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You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-fp-linux64-revC.20090713.xml>

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