SPEC® CFP2006 Result
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IBM Corporation

IBM System x3650 (Intel Xeon X5355)

$SPECfp®\_rate2006 =$ 61.3

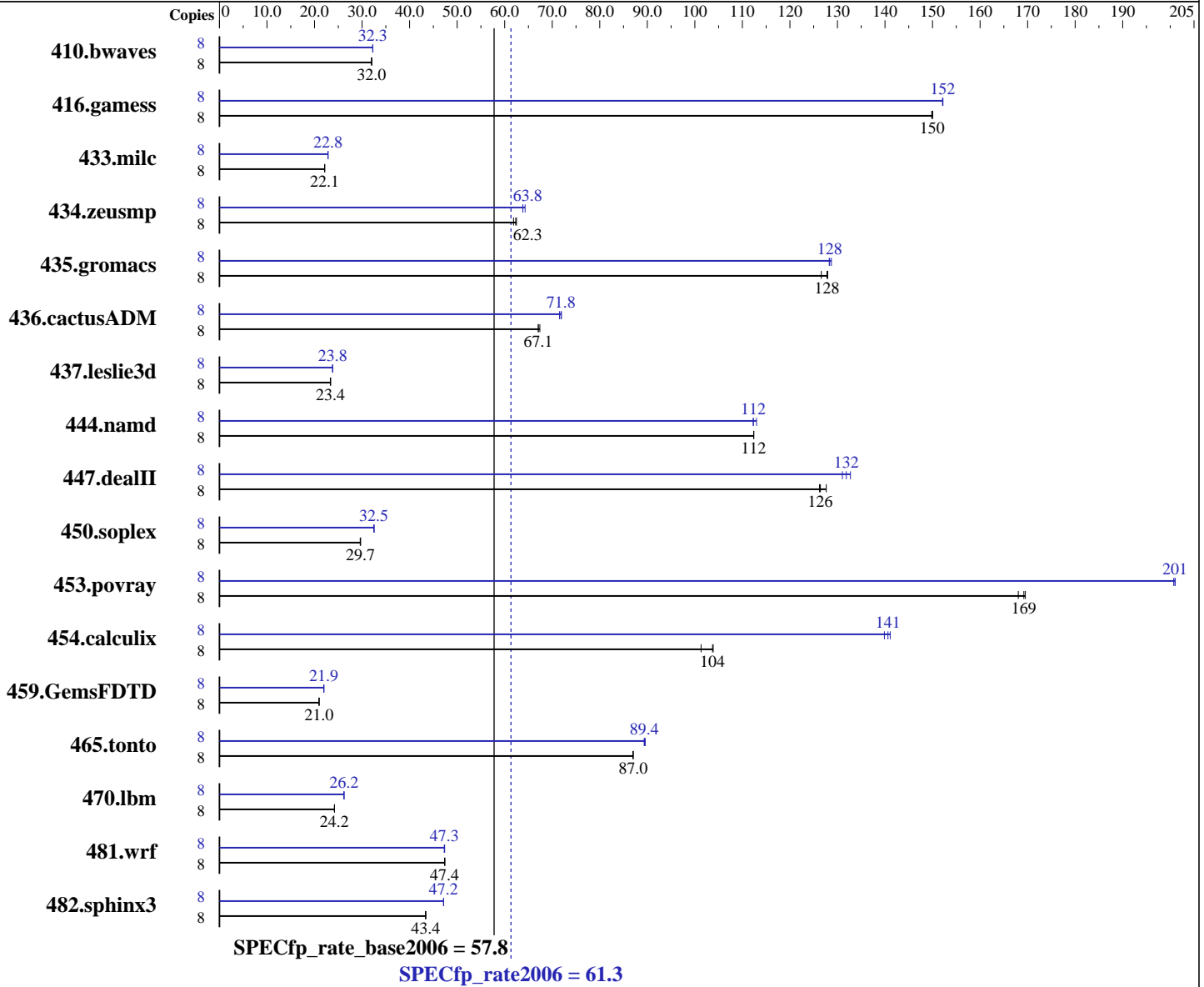$SPECfp\_rate\_base2006 =$ 57.8

CPU2006 license: 11　　　　**Test date:** Aug-2007
Test sponsor: IBM Corporation　　　　**Hardware Availability:** Apr-2007
Tested by: IBM Corporation　　　　**Software Availability:** Nov-2007

Copies	Benchmark	Rate (blue)	Rate (black)
8 / 8	410.bwaves	32.3	32.0
8 / 8	416.gamess	152	150
8 / 8	433.milc	22.8	22.1
8 / 8	434.zeusmp	63.8	62.3
8 / 8	435.gromacs	128	128
8 / 8	436.cactusADM	71.8	67.1
8 / 8	437.leslie3d	23.8	23.4
8 / 8	444.namd	112	112
8 / 8	447.dealII	132	126
8 / 8	450.soplex	32.5	29.7
8 / 8	453.povray	201	169
8 / 8	454.calculix	141	104
8 / 8	459.GemsFDTD	21.9	21.0
8 / 8	465.tonto	89.4	87.0
8 / 8	470.lbm	26.2	24.2
8 / 8	481.wrf	47.3	47.4
8 / 8	482.sphinx3	47.2	43.4

SPECfp_rate_base2006 = 57.8

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Hardware

CPU Name: Intel Xeon X5355
CPU Characteristics: 1333MHz system bus
CPU MHz: 2667
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: SLES 10 (x86_64), 2.6.16.21-0.8-smp
Compiler: Intel C++ and Fortran Compiler for Linux version 10.1
Build 20070725
Auto Parallel: No
File System: ReiserFS
System State: Multi-user, run level 3
Base Pointers: 64-bit

Continued on next page

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L3 Cache:	None
Other Cache:	None
Memory:	16 GB (8 x 2 GB DDR2-5300F ECC)
Disk Subsystem:	1 x 36 GB SAS, 15000 RPM
Other Hardware:	None

Peak Pointers:	32/64-bit
Other Software:	None

Results Table

Benchmark	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	3396	32.0	**3395**	**32.0**	3395	32.0	8	**3370**	**32.3**	3368	32.3	3373	32.2
416.gamess	8	**1045**	**150**	1045	150	1044	150	8	**1030**	**152**	1030	152	1029	152
433.milc	8	3317	22.1	**3318**	**22.1**	3320	22.1	8	**3216**	**22.8**	3215	22.8	3218	22.8
434.zeusmp	8	**1168**	**62.3**	1177	61.9	1165	62.5	8	1141	63.8	1132	64.3	**1141**	**63.8**
435.gromacs	8	446	128	451	127	**447**	**128**	8	445	128	**445**	**128**	444	129
436.cactusADM	8	1425	67.1	**1425**	**67.1**	1418	67.4	8	**1331**	**71.8**	1329	71.9	1336	71.5
437.leslie3d	8	3216	23.4	**3218**	**23.4**	3224	23.3	8	3154	23.8	3161	23.8	**3157**	**23.8**
444.namd	8	571	112	**571**	**112**	571	112	8	**571**	**112**	572	112	568	113
447.dealII	8	**724**	**126**	725	126	717	128	8	690	133	698	131	**694**	**132**
450.soplex	8	2247	29.7	**2250**	**29.7**	2254	29.6	8	2053	32.5	**2053**	**32.5**	2051	32.5
453.povray	8	253	168	**252**	**169**	251	170	8	212	201	212	201	**212**	**201**
454.calculix	8	651	101	**636**	**104**	635	104	8	**469**	**141**	468	141	472	140
459.GemsFDTD	8	4049	21.0	4052	20.9	**4051**	**21.0**	8	**3867**	**21.9**	3861	22.0	3868	21.9
465.tonto	8	904	87.0	**905**	**87.0**	905	87.0	8	881	89.3	**880**	**89.4**	879	89.6
470.lbm	8	4543	24.2	4543	24.2	**4543**	**24.2**	8	4196	26.2	**4196**	**26.2**	4196	26.2
481.wrf	8	1887	47.3	**1885**	**47.4**	1885	47.4	8	1889	47.3	1886	47.4	**1889**	**47.3**
482.sphinx3	8	**3594**	**43.4**	3595	43.4	3593	43.4	8	3306	47.2	**3306**	**47.2**	3309	47.1

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

General Notes

    tasket utility used to bind CPU(s) to processes

Base Compiler Invocation

C benchmarks:
    icc

C++ benchmarks:
    icpc

Fortran benchmarks:
    ifort

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Base Compiler Invocation (Continued)

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
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include
```

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Peak Compiler Invocation (Continued)

433.milc: `icc`

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

450.soplex: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icpc`
`-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib`
`-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include`

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

437.leslie3d: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/ifort`
`-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib`
`-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/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`

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.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 -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-intel64-linux-flags.20090714.21.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-intel64-linux-flags.20090714.21.xml

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