SPEC® CFP2006 Result

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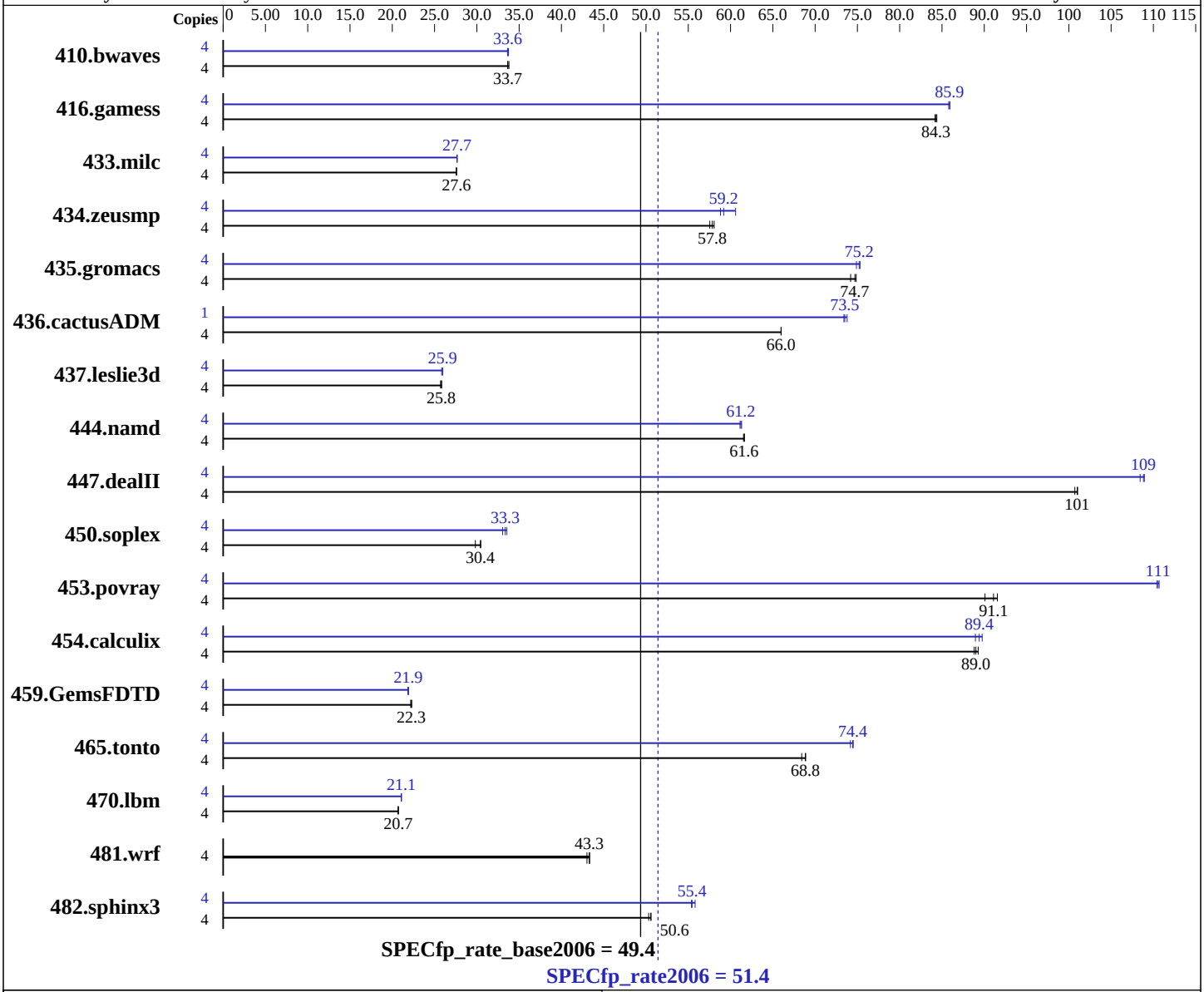
NTT System S. A.
NTT Tytan 516I

SPECfp®_rate2006 = 51.4

SPECfp_rate_base2006 = 49.4

CPU2006 license: 9013
Test sponsor: NTT System S. A.
Tested by: NTT System S. A.

Test date: Dec-2008
Hardware Availability: Dec-2008
Software Availability: Dec-2008



Hardware

CPU Name:	Intel Xeon X3360
CPU Characteristics:	2.83 GHz, 2x6 MB P2 shared, 1333 MHz System Bus
CPU MHz:	2833
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	12 MB I+D on chip per chip, 6 MB shared / 2 cores

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Software

Operating System:	SuSe Linux SLES10 SP1, Kernel 2.6.16.60-0.21-smp
Compiler:	Intel C++ and Fortran Compiler 11.0 for Linux Build 20080930 Package ID: l_cproc_p_11.0.066, l_cprof_p_11.0.066
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	32/64-bit

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L3 Cache: None
Other Cache: None
Memory: 8 GB (4x2GB)
Disk Subsystem: 400 GB SATA, 7200RPM
Other Hardware: None

Other Software: Microquill SmartHeap V8.1
Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1616	33.6	1608	33.8	**1615**	**33.7**	4	1616	33.6	1611	33.7	**1616**	**33.6**
416.gamess	4	928	84.4	930	84.2	**929**	**84.3**	4	913	85.8	**912**	**85.9**	911	85.9
433.milc	4	1331	27.6	**1331**	**27.6**	1331	27.6	4	**1328**	**27.7**	1327	27.7	1328	27.7
434.zeusmp	4	**629**	**57.8**	627	58.1	633	57.5	4	601	60.6	619	58.8	**615**	**59.2**
435.gromacs	4	**382**	**74.7**	385	74.2	382	74.9	4	381	74.9	379	75.3	**380**	**75.2**
436.cactusADM	4	724	66.0	725	66.0	**724**	**66.0**	1	**163**	**73.5**	162	73.8	163	73.4
437.leslie3d	4	1463	25.7	**1457**	**25.8**	1455	25.8	4	**1449**	**25.9**	1449	26.0	1455	25.8
444.namd	4	521	61.5	520	61.6	**521**	**61.6**	4	525	61.1	523	61.3	**524**	**61.2**
447.dealII	4	454	101	453	101	**453**	**101**	4	420	109	**420**	**109**	422	108
450.soplex	4	1119	29.8	**1097**	**30.4**	1095	30.5	4	1009	33.0	**1000**	**33.3**	994	33.6
453.povray	4	**234**	**91.1**	236	90.1	232	91.6	4	**192**	**111**	193	110	192	111
454.calculix	4	**371**	**89.0**	370	89.3	372	88.8	4	368	89.8	371	89.0	**369**	**89.4**
459.GemsFDTD	4	1904	22.3	**1907**	**22.3**	1914	22.2	4	**1938**	**21.9**	1943	21.8	1937	21.9
465.tonto	4	575	68.4	571	68.9	**572**	**68.8**	4	531	74.2	**529**	**74.4**	528	74.5
470.lbm	4	2655	20.7	**2654**	**20.7**	2654	20.7	4	2608	21.1	**2608**	**21.1**	2609	21.1
481.wrf	4	1031	43.3	1039	43.0	**1032**	**43.3**	4	1031	43.3	1039	43.0	**1032**	**43.3**
482.sphinx3	4	**1541**	**50.6**	1549	50.3	1541	50.6	4	**1406**	**55.4**	1408	55.4	1397	55.8

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

Submit Notes

```
The config file option 'submit' was used.
 taskset was used to bind processes to cores except
 for 436.cactusADM peak
 OMP_NUM_THREADS set to number of processors
 KMP_AFFINITY set to "physical,0"
 KMP_STACKSIZE set to 64M
```

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:
-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch

C++ benchmarks:
-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch

Fortran benchmarks:
-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch

Benchmarks using both Fortran and C:
-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch

Peak Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

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
470.lbm: -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) -xSSSE3 -ipo -O3
-no-prec-div -static -fno-alias

470.lbm: -xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch
-auto-ilp32

482.sphinx3: -m32 -xSSSE3 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -fno-alias -auto-ilp32

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Peak Optimization Flags (Continued)

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -unroll2 -ansi-alias -scalar-rep-

450.soplex: -m32 -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static

437.leslie3d: -m32 -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -opt-malloc-options=3 -opt-prefetch

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -unroll2 -Ob0 -opt-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -unroll2 -opt-prefetch -parallel -auto-ilp32

454.calculix: -xSSSE3 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090710.html
http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090710.03.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090710.xml
http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090710.03.xml

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

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