



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

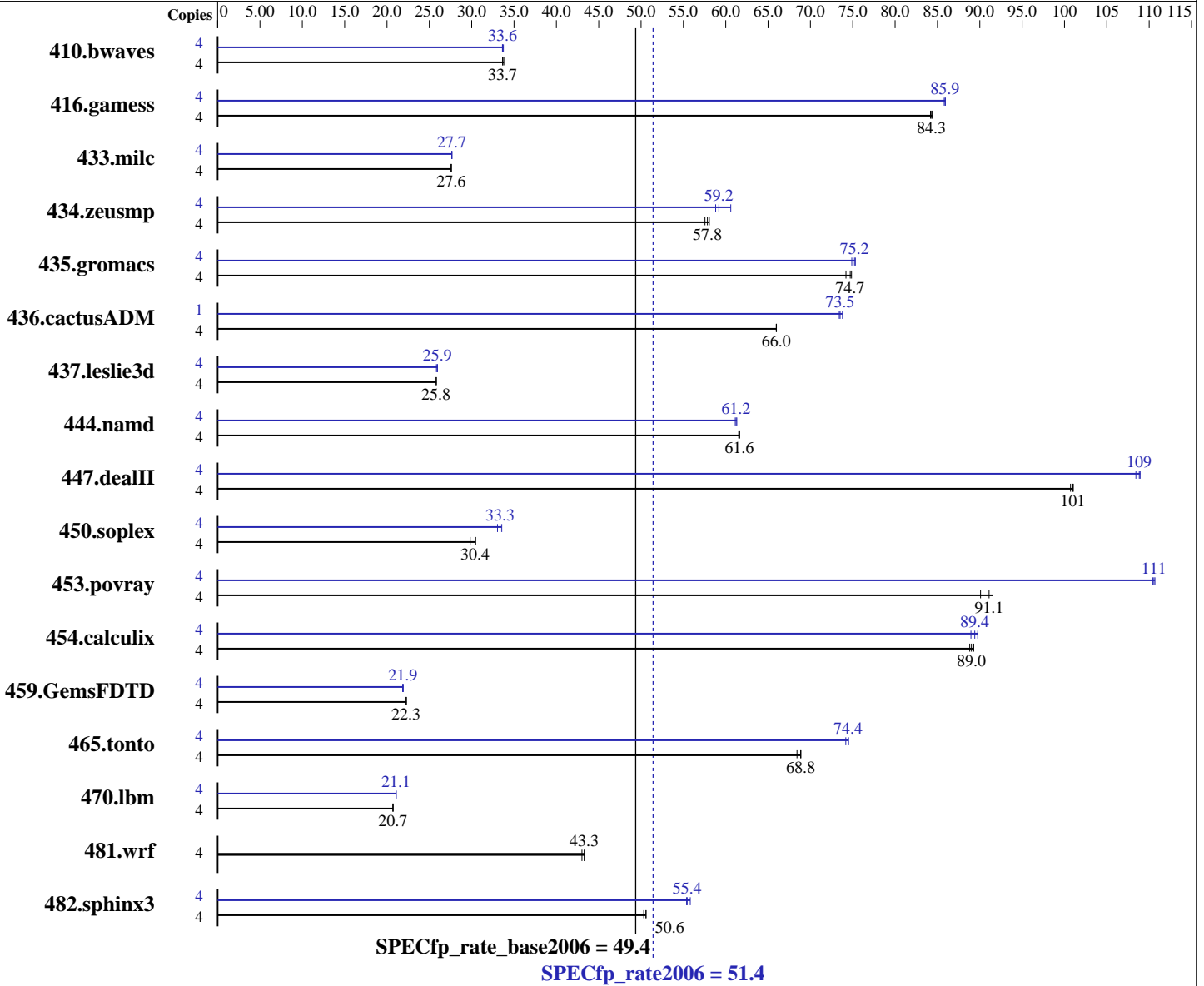
Test sponsor: NTT System S. A.

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



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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.deallI: -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.dealIII: -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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