



# SPEC® CFP2006 Result

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NTT System S. A.  
NTT Business W 986G

SPECfp®\_rate2006 = 31.9

SPECfp\_rate\_base2006 = 30.8

CPU2006 license: 9013

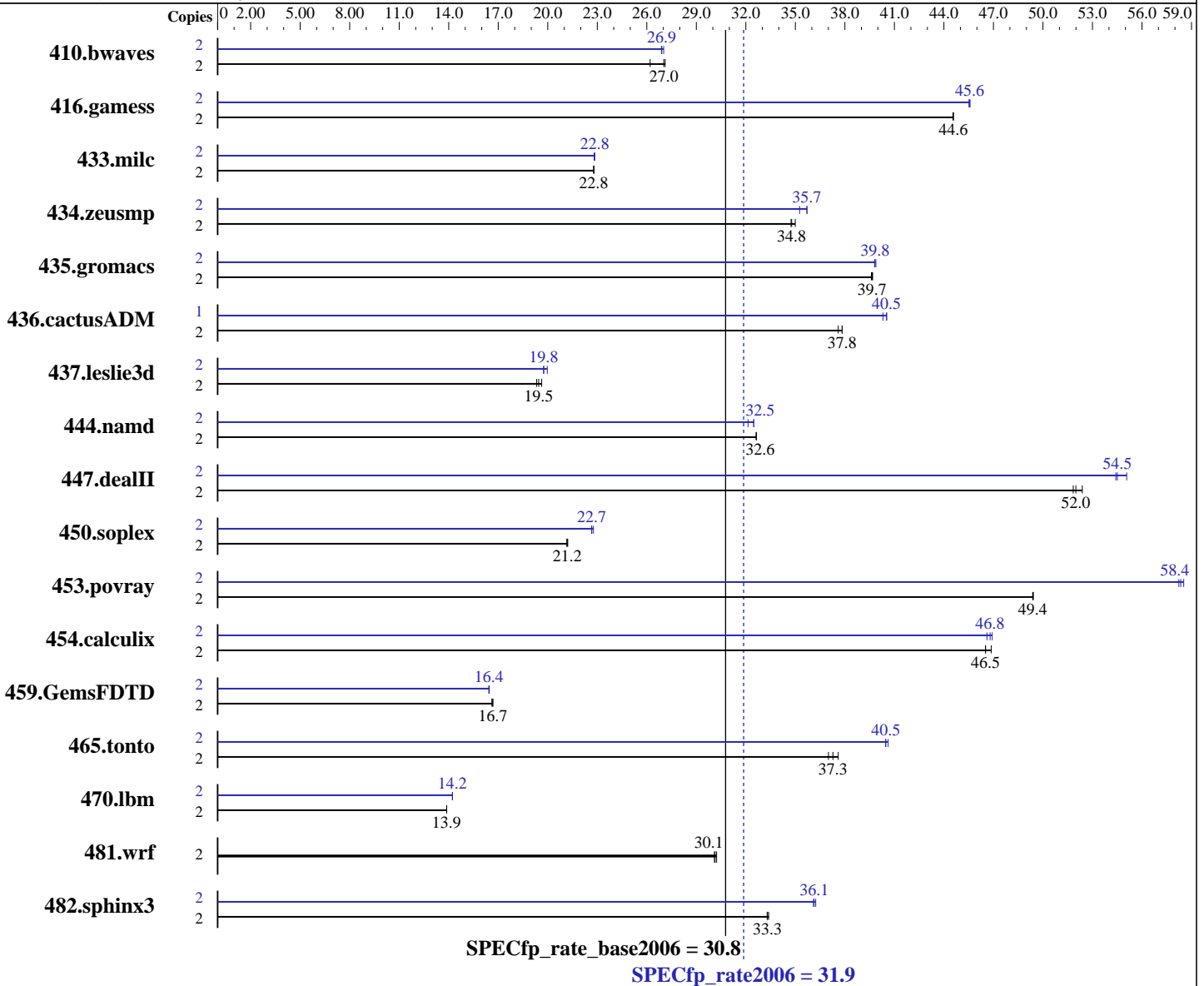
Test sponsor: NTT System S. A.

Tested by: NTT System S. A.

Test date: Nov-2008

Hardware Availability: Nov-2008

Software Availability: Nov-2008



## Hardware

CPU Name: Intel Core 2 Duo E8400  
 CPU Characteristics:  
 CPU MHz: 3000  
 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: 6 MB I+D on chip per chip

Continued on next page

## 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: 4 GB (4x1GB)  
Disk Subsystem: 250 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	2	1037	26.2	1002	27.1	<b>1006</b>	<b>27.0</b>	2	1011	26.9	<b>1010</b>	<b>26.9</b>	1006	27.0
416.gamess	2	879	44.5	<b>879</b>	<b>44.6</b>	879	44.6	2	<b>859</b>	<b>45.6</b>	860	45.5	859	45.6
433.milc	2	806	22.8	<b>806</b>	<b>22.8</b>	805	22.8	2	805	22.8	804	22.8	<b>804</b>	<b>22.8</b>
434.zeusmp	2	524	34.7	<b>523</b>	<b>34.8</b>	520	35.0	2	510	35.7	<b>510</b>	<b>35.7</b>	516	35.3
435.gromacs	2	<b>360</b>	<b>39.7</b>	360	39.7	361	39.6	2	359	39.8	358	39.9	<b>359</b>	<b>39.8</b>
436.cactusADM	2	636	37.6	632	37.8	<b>632</b>	<b>37.8</b>	1	296	40.3	<b>295</b>	<b>40.5</b>	295	40.5
437.leslie3d	2	<b>967</b>	<b>19.5</b>	958	19.6	973	19.3	2	952	19.7	<b>952</b>	<b>19.8</b>	941	20.0
444.namd	2	<b>491</b>	<b>32.6</b>	492	32.6	491	32.6	2	499	32.1	<b>494</b>	<b>32.5</b>	494	32.5
447.dealII	2	<b>440</b>	<b>52.0</b>	441	51.8	437	52.4	2	415	55.1	420	54.4	<b>420</b>	<b>54.5</b>
450.soplex	2	<b>788</b>	<b>21.2</b>	786	21.2	789	21.2	2	736	22.7	733	22.8	<b>736</b>	<b>22.7</b>
453.povray	2	215	49.4	<b>215</b>	<b>49.4</b>	215	49.4	2	<b>182</b>	<b>58.4</b>	182	58.5	183	58.2
454.calculix	2	355	46.5	<b>355</b>	<b>46.5</b>	352	46.9	2	354	46.6	<b>353</b>	<b>46.8</b>	352	46.9
459.GemsFDTD	2	1277	16.6	1273	16.7	<b>1273</b>	<b>16.7</b>	2	<b>1291</b>	<b>16.4</b>	1291	16.4	1289	16.5
465.tonto	2	<b>528</b>	<b>37.3</b>	532	37.0	523	37.6	2	484	40.6	486	40.5	<b>486</b>	<b>40.5</b>
470.lbm	2	1980	13.9	1980	13.9	<b>1980</b>	<b>13.9</b>	2	1933	14.2	<b>1931</b>	<b>14.2</b>	1931	14.2
481.wrf	2	<b>741</b>	<b>30.1</b>	739	30.2	742	30.1	2	<b>741</b>	<b>30.1</b>	739	30.2	742	30.1
482.sphinx3	2	<b>1170</b>	<b>33.3</b>	1168	33.4	1171	33.3	2	<b>1078</b>	<b>36.1</b>	1080	36.1	1076	36.2

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:  
-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

C++ benchmarks:  
-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

Fortran benchmarks:  
-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

Benchmarks using both Fortran and C:  
-xSSE4.1 -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) -xSSE4.1 -ipo -O3  
-no-prec-div -static -fno-alias

470.lbm: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch  
-auto-ilp32

482.sphinx3: -m32 -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -fno-alias -auto-ilp32

Continued on next page



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## Peak Optimization Flags (Continued)

447.dealIII: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll2 -ansi-alias -scalar-rep-

450.soplex: -m32 -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo  
-O3 -no-prec-div -static -opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll4 -ansi-alias

### Fortran benchmarks:

410.bwaves: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll2 -Ob0 -ansi-alias  
-scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static

437.leslie3d: -m32 -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo  
-O3 -no-prec-div -static -opt-malloc-options=3  
-opt-prefetch

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll2 -Ob0 -opt-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll4 -auto

### Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -opt-prefetch -auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll2 -opt-prefetch -parallel  
-auto-ilp32

454.calculix: -xSSE4.1 -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.20090710.06.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.20090710.06.xml>



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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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