



SPEC® CFP2006 Result

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Fujitsu

SPECfp®_rate2006 = 862

PRIMERGY RX900 S1, Intel Xeon X7550, 2.00 GHz

SPECfp_rate_base2006 = 845

CPU2006 license: 19

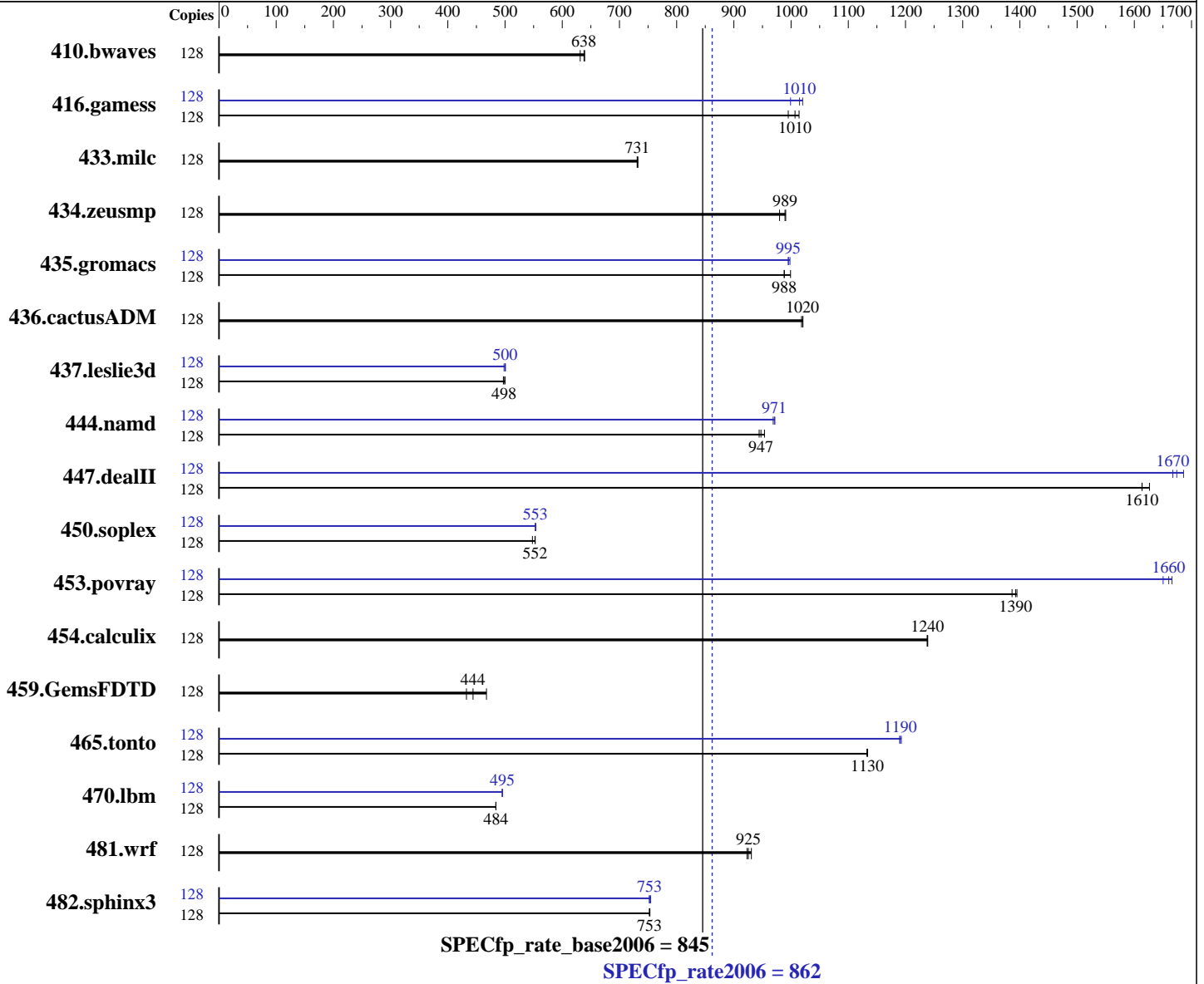
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Aug-2010

Hardware Availability: Aug-2010

Software Availability: Feb-2010



Hardware

CPU Name: Intel Xeon X7550
 CPU Characteristics: Intel Turbo Boost Technology up to 2.40 GHz
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 64 cores, 8 chips, 8 cores/chip, 2 threads/core
 CPU(s) orderable: 4,6,8 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core

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Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
 Compiler: Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20100203 Package ID: l_cproc_p_11.1.069
 Auto Parallel: No
 File System: ext2
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit

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L3 Cache: 18 MB I+D on chip per chip
Other Cache: None
Memory: 1 TB (128 x 8 GB DDR3-1066 DIMMs)
Disk Subsystem: 2 x 147 GB (SAS, 15000 RPM, RAID0)
Other Hardware: None

Peak Pointers: 64-bit
Other Software: N/A

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	128	<u>2727</u>	<u>638</u>	2721	639	2755	631	128	<u>2727</u>	<u>638</u>	2721	639	2755	631
416.gamess	128	<u>2489</u>	<u>1010</u>	2472	1010	2519	995	128	<u>2470</u>	<u>1010</u>	2509	999	2456	1020
433.milc	128	<u>1607</u>	<u>731</u>	1604	732	1607	731	128	<u>1607</u>	<u>731</u>	1604	732	1607	731
434.zeusmp	128	<u>1177</u>	<u>989</u>	1176	991	1189	980	128	<u>1177</u>	<u>989</u>	1176	991	1189	980
435.gromacs	128	925	988	915	999	<u>925</u>	<u>988</u>	128	<u>918</u>	<u>995</u>	916	998	918	995
436.cactusADM	128	1498	1020	1502	1020	<u>1499</u>	<u>1020</u>	128	1498	1020	1502	1020	<u>1499</u>	<u>1020</u>
437.leslie3d	128	2406	500	2421	497	<u>2416</u>	<u>498</u>	128	2415	498	2403	501	<u>2406</u>	<u>500</u>
444.namd	128	<u>1084</u>	<u>947</u>	1087	944	1077	954	128	<u>1058</u>	<u>971</u>	1056	972	1060	969
447.dealII	128	<u>907</u>	<u>1610</u>	900	1630	908	1610	128	878	1670	868	1690	<u>875</u>	<u>1670</u>
450.soplex	128	1948	548	<u>1933</u>	<u>552</u>	1931	553	128	1931	553	1928	554	<u>1930</u>	<u>553</u>
453.povray	128	<u>489</u>	<u>1390</u>	488	1390	491	1390	128	<u>410</u>	<u>1660</u>	413	1650	409	1670
454.calculix	128	852	1240	<u>853</u>	<u>1240</u>	853	1240	128	852	1240	<u>853</u>	<u>1240</u>	853	1240
459.GemsFDTD	128	<u>3058</u>	<u>444</u>	3140	433	2905	468	128	<u>3058</u>	<u>444</u>	3140	433	2905	468
465.tonto	128	<u>1111</u>	<u>1130</u>	1111	1130	1112	1130	128	1056	1190	1059	1190	<u>1058</u>	<u>1190</u>
470.lbm	128	3633	484	3634	484	<u>3634</u>	<u>484</u>	128	<u>3551</u>	<u>495</u>	3550	495	3552	495
481.wrf	128	<u>1545</u>	<u>925</u>	1536	931	1549	923	128	<u>1545</u>	<u>925</u>	1536	931	1549	923
482.sphinx3	128	3312	753	3316	752	<u>3315</u>	<u>753</u>	128	3317	752	<u>3314</u>	<u>753</u>	3307	754

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.
numactl was used to bind copies to the cores

Operating System Notes

The following command was used prior to run

```
ulimit -s unlimited
echo 1 > /proc/sys/vm/zone_reclaim_mode
```



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Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64

Fortran benchmarks:
ifort -m64

Benchmarks using both Fortran and C:
icc -m64 ifort -m64

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:
-xSSE4.2 -ipo -O3 -no-prec-div -static

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static

Fortran benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:
-xSSE4.2 -ipo -O3 -no-prec-div -static



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Peak Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64

Fortran benchmarks:
ifort -m64

Benchmarks using both Fortran and C:
icc -m64 ifort -m64

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-opt-malloc-options=3 -ansi-alias -auto-ilp32

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

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

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

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

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

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Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: basepeak = yes

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

434.zeusmp: basepeak = yes

437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div -static

459.GemsFDTD: basepeak = yes

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll4 -auto -inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

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

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Fujitsu.RX900.ic11.1-linux64.20100901.html>

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

<http://www.spec.org/cpu2006/flags/Fujitsu.RX900.ic11.1-linux64.20100901.xml>

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

Tested with SPEC CPU2006 v1.1.

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