



SPEC[®] CFP2006 Result

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Fujitsu

SPECfp[®]_rate2006 = 763

PRIMERGY RX900 S1, Intel Xeon X7542, 2.66 GHz

SPECfp_rate_base2006 = 747

CPU2006 license: 19

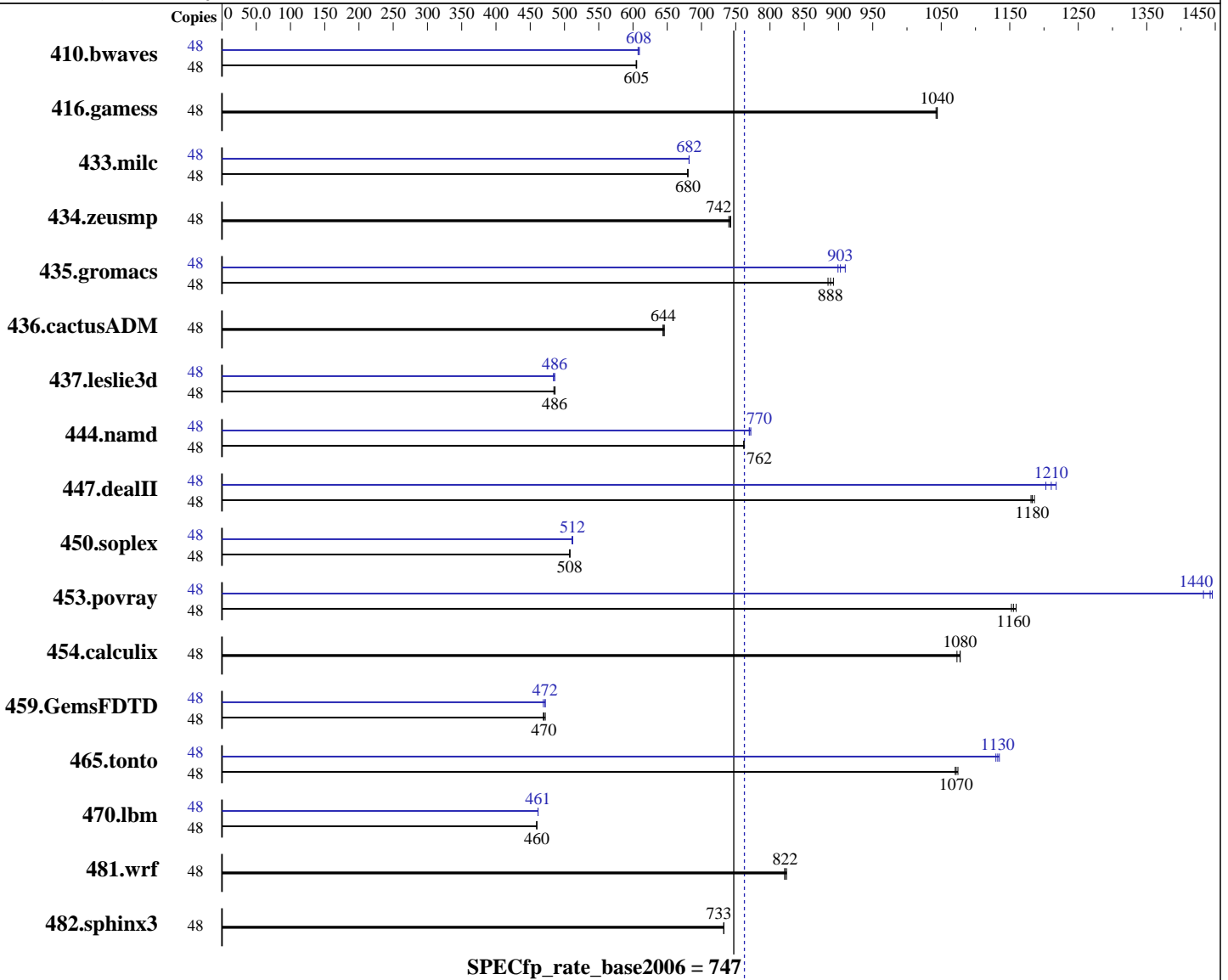
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Aug-2010

Hardware Availability: Aug-2010

Software Availability: Feb-2010



Hardware

CPU Name: Intel Xeon X7542
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
 CPU MHz: 2667
 FPU: Integrated
 CPU(s) enabled: 48 cores, 8 chips, 6 cores/chip
 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	48	1079	605	1078	605	<u>1078</u>	<u>605</u>	48	1074	607	1070	609	<u>1072</u>	<u>608</u>
416.gamess	48	902	1040	<u>900</u>	<u>1040</u>	900	1040	48	902	1040	<u>900</u>	<u>1040</u>	900	1040
433.milc	48	<u>648</u>	<u>680</u>	648	680	648	680	48	646	682	<u>646</u>	<u>682</u>	646	682
434.zeusmp	48	<u>589</u>	<u>742</u>	590	740	588	743	48	<u>589</u>	<u>742</u>	590	740	588	743
435.gromacs	48	387	885	384	893	<u>386</u>	<u>888</u>	48	<u>380</u>	<u>903</u>	381	899	377	910
436.cactusADM	48	891	644	888	646	<u>890</u>	<u>644</u>	48	891	644	888	646	<u>890</u>	<u>644</u>
437.leslie3d	48	928	486	931	484	<u>929</u>	<u>486</u>	48	929	486	933	484	<u>929</u>	<u>486</u>
444.namd	48	<u>505</u>	<u>762</u>	505	762	505	762	48	499	772	500	770	<u>500</u>	<u>770</u>
447.dealII	48	463	1190	465	1180	<u>464</u>	<u>1180</u>	48	451	1220	<u>454</u>	<u>1210</u>	457	1200
450.soplex	48	789	508	788	508	<u>788</u>	<u>508</u>	48	783	511	782	512	<u>782</u>	<u>512</u>
453.povray	48	222	1150	220	1160	<u>221</u>	<u>1160</u>	48	<u>177</u>	<u>1440</u>	178	1430	177	1450
454.calculix	48	<u>368</u>	<u>1080</u>	367	1080	369	1070	48	<u>368</u>	<u>1080</u>	367	1080	369	1070
459.GemsFDTD	48	<u>1083</u>	<u>470</u>	1085	469	1079	472	48	1086	469	1079	472	<u>1080</u>	<u>472</u>
465.tonto	48	441	1070	440	1070	<u>441</u>	<u>1070</u>	48	<u>417</u>	<u>1130</u>	416	1130	418	1130
470.lbm	48	<u>1435</u>	<u>460</u>	1435	460	1435	460	48	<u>1429</u>	<u>461</u>	1430	461	1429	461
481.wrf	48	653	821	650	824	<u>652</u>	<u>822</u>	48	653	821	650	824	<u>652</u>	<u>822</u>
482.sphinx3	48	1277	733	<u>1277</u>	<u>733</u>	1277	732	48	1277	733	<u>1277</u>	<u>733</u>	1277	732

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.lelie3d: -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: -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 -opt-prefetch

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: basepeak = yes

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

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

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

459.GemsFDTD: -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

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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