SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

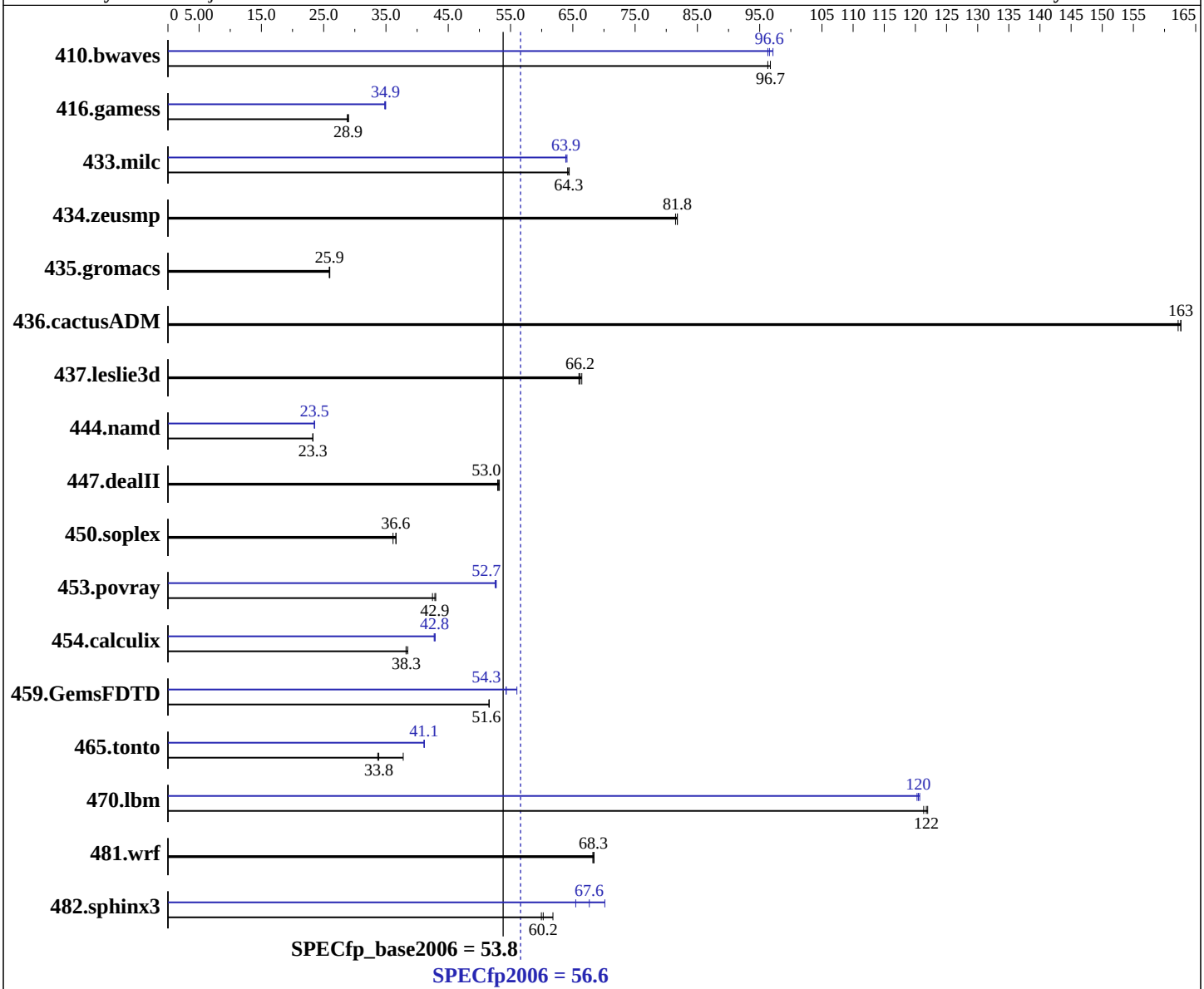
CELSIUS W510, Intel Xeon E3-1220

SPECfp®2006 = 56.6

SPECfp_base2006 = 53.8

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Apr-2011
Hardware Availability: Apr-2011
Software Availability: Jan-2011



Hardware

CPU Name:	Intel Xeon E3-1220
CPU Characteristics:	Intel Turbo Boost Technology up to 3.4 GHz
CPU MHz:	3100
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:	256 KB I+D on chip per core

Continued on next page

Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64) SP1, kernel 2.6.32.12-0.6-default
Compiler:	Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.2.137 Build 20110112
Auto Parallel:	Yes
File System:	ext3
System State:	Run Level 3 (multi-user)
Base Pointers:	64-bit

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

CELSIUS W510, Intel Xeon E3-1220

SPECfp2006 = 56.6

SPECfp_base2006 = 53.8

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Apr-2011
Hardware Availability: Apr-2011
Software Availability: Jan-2011

L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 8 GB (2 x 4 GB 2Rx8 PC3-10600U-9, non-ECC)
Disk Subsystem: 1 x SATA II, 400 GB, 7200 rpm
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	141	96.3	**141**	**96.7**	141	96.7	**141**	**96.6**	141	96.3	140	97.1
416.gamess	675	29.0	**677**	**28.9**	680	28.8	560	35.0	**561**	**34.9**	563	34.8
433.milc	143	64.2	142	64.4	**143**	**64.3**	144	63.9	143	64.1	**144**	**63.9**
434.zeusmp	**111**	**81.8**	112	81.5	111	81.8	**111**	**81.8**	112	81.5	111	81.8
435.gromacs	**275**	**25.9**	276	25.9	275	26.0	**275**	**25.9**	276	25.9	275	26.0
436.cactusADM	**73.5**	**163**	73.5	163	73.7	162	**73.5**	**163**	73.5	163	73.7	162
437.leslie3d	142	66.0	**142**	**66.2**	141	66.4	142	66.0	**142**	**66.2**	141	66.4
444.namd	345	23.3	345	23.3	**345**	**23.3**	**341**	**23.5**	341	23.5	341	23.5
447.dealII	216	52.9	**216**	**53.0**	215	53.2	216	52.9	**216**	**53.0**	215	53.2
450.soplex	231	36.1	**228**	**36.6**	228	36.6	231	36.1	**228**	**36.6**	228	36.6
453.povray	124	43.0	125	42.5	**124**	**42.9**	101	52.5	101	52.7	**101**	**52.7**
454.calculix	214	38.5	**216**	**38.3**	216	38.2	**193**	**42.8**	192	42.9	193	42.7
459.GemsFDTD	206	51.5	206	51.6	**206**	**51.6**	**195**	**54.3**	195	54.3	189	56.0
465.tonto	292	33.7	**291**	**33.8**	261	37.8	239	41.1	**239**	**41.1**	239	41.2
470.lbm	113	121	113	122	**113**	**122**	114	120	114	121	**114**	**120**
481.wrf	164	68.2	163	68.4	**163**	**68.3**	164	68.2	163	68.4	**163**	**68.3**
482.sphinx3	315	61.8	325	60.0	**323**	**60.2**	**288**	**67.6**	278	70.1	298	65.5

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

Operating System Notes

```
'ulimit -s unlimited' was used to set the stack size to unlimited prior to run
 Hugepages were enabled by:
 mount -t hugetlbfs nodev /mnt/hugepages
 echo 900 > /proc/sys/vm/nr_hugepages
 export HUGETLB_MORECORE=yes
 export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```

General Notes

```
OMP_NUM_THREADS set to number of cores
```

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:
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch -ansi-alias

C++ benchmarks:
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias

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

Benchmarks using both Fortran and C:
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch -ansi-alias

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: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32 -ansi-alias

470.lbm: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -parallel -ansi-alias -static -auto-ilp32

482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias -parallel

C++ benchmarks:

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

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Continued on next page

Peak Optimization Flags (Continued)

Fortran benchmarks:

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

416.gamess: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2 -inline-level=0 -scalar-rep- -static

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2 -inline-level=0 -opt-prefetch -parallel -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -inline-calloc -opt-malloc-options=3 -auto -unroll4 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/Platform.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/Platform.xml

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 20:16:06 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 24 May 2011.