



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp[®]2006 = **77.3**

PRIMERGY BX924 S4, Intel Xeon E5-2640 v2, 2.00 GHz

SPECfp_base2006 = **74.4**

CPU2006 license: 19

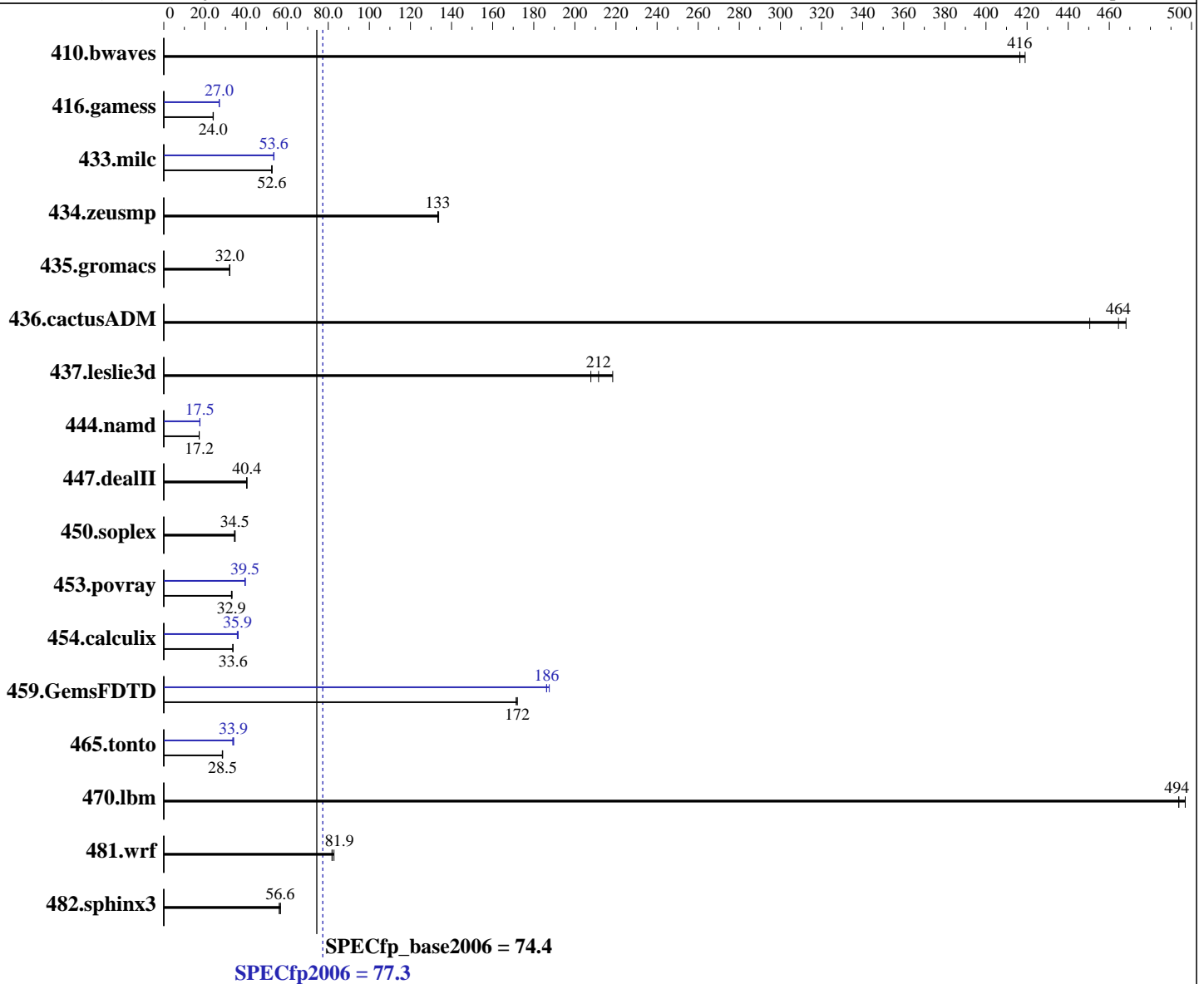
Test date: Oct-2013

Test sponsor: Fujitsu

Hardware Availability: Oct-2013

Tested by: Fujitsu

Software Availability: Sep-2013



Hardware

CPU Name: Intel Xeon E5-2640 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 2.50 GHz
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 chips
 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: Red Hat Enterprise Linux Server release 6.4 (Santiago)
 2.6.32-358.11.1.el6.x86_64
 Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux;
 Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = **77.3**

PRIMERGY BX924 S4, Intel Xeon E5-2640 v2, 2.00 GHz

SPECfp_base2006 = **74.4**

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Oct-2013

Hardware Availability: Oct-2013

Software Availability: Sep-2013

L3 Cache: 20 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC3L-12800R-11, ECC)
Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM
Other Hardware: None

System State: Run level 3 (multi-user)
Base Pointers: 64-bit
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	<u>32.6</u>	<u>416</u>	32.4	419	32.6	416	<u>32.6</u>	<u>416</u>	32.4	419	32.6	416
416.gamess	812	24.1	<u>816</u>	<u>24.0</u>	816	24.0	<u>725</u>	<u>27.0</u>	725	27.0	727	26.9
433.milc	175	52.5	<u>174</u>	<u>52.6</u>	174	52.7	<u>172</u>	<u>53.4</u>	171	53.6	<u>171</u>	<u>53.6</u>
434.zeusmp	68.2	133	<u>68.2</u>	<u>133</u>	68.0	134	<u>68.2</u>	<u>133</u>	<u>68.2</u>	<u>133</u>	68.0	134
435.gromacs	<u>223</u>	<u>32.0</u>	222	32.1	223	32.0	<u>223</u>	<u>32.0</u>	222	32.1	223	32.0
436.cactusADM	26.5	450	<u>25.7</u>	<u>464</u>	25.5	468	<u>26.5</u>	<u>450</u>	<u>25.7</u>	<u>464</u>	25.5	468
437.leslie3d	43.0	218	<u>44.4</u>	<u>212</u>	45.2	208	<u>43.0</u>	<u>218</u>	<u>44.4</u>	<u>212</u>	45.2	208
444.namd	465	17.2	<u>466</u>	<u>17.2</u>	466	17.2	<u>456</u>	<u>17.6</u>	457	17.5	<u>457</u>	<u>17.5</u>
447.dealII	284	40.3	<u>283</u>	<u>40.4</u>	283	40.5	<u>284</u>	<u>40.3</u>	<u>283</u>	<u>40.4</u>	283	40.5
450.soplex	<u>242</u>	<u>34.5</u>	242	34.4	240	34.7	<u>242</u>	<u>34.5</u>	242	34.4	240	34.7
453.povray	<u>162</u>	<u>32.9</u>	160	33.2	162	32.9	<u>134</u>	<u>39.7</u>	135	39.5	<u>135</u>	<u>39.5</u>
454.calculix	245	33.6	<u>245</u>	<u>33.6</u>	246	33.6	<u>230</u>	<u>35.9</u>	231	35.7	228	36.2
459.GemsFDTD	61.7	172	<u>61.7</u>	<u>172</u>	61.9	171	<u>57.0</u>	<u>186</u>	57.0	186	56.6	188
465.tonto	<u>345</u>	<u>28.5</u>	346	28.5	343	28.7	<u>290</u>	<u>34.0</u>	<u>291</u>	<u>33.9</u>	293	33.5
470.lbm	27.6	497	<u>27.8</u>	<u>494</u>	27.8	494	<u>27.6</u>	<u>497</u>	<u>27.8</u>	<u>494</u>	27.8	494
481.wrf	137	81.8	135	82.8	<u>136</u>	<u>81.9</u>	137	81.8	135	82.8	<u>136</u>	<u>81.9</u>
482.sphinx3	343	56.8	<u>344</u>	<u>56.6</u>	347	56.1	<u>343</u>	<u>56.8</u>	<u>344</u>	<u>56.6</u>	347	56.1

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

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

BIOS configuration:
Energy Performance = Performance
Utilization Profile = Unbalanced

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64:/SPECcpu2006/sh"

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = 77.3

PRIMERGY BX924 S4, Intel Xeon E5-2640 v2, 2.00 GHz

SPECfp_base2006 = 74.4

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

Test date: Oct-2013
Hardware Availability: Oct-2013
Software Availability: Sep-2013

General Notes (Continued)

OMP_NUM_THREADS = "16"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled

runspec command invoked through numactl i.e.:

numactl --interleave=all runspec <etc>

For information about Fujitsu please visit: <http://www.fujitsu.com>

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



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = 77.3

PRIMERGY BX924 S4, Intel Xeon E5-2640 v2, 2.00 GHz

SPECfp_base2006 = 74.4

CPU2006 license: 19

Test date: Oct-2013

Test sponsor: Fujitsu

Hardware Availability: Oct-2013

Tested by: Fujitsu

Software Availability: Sep-2013

Base Optimization Flags

C benchmarks:

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

C++ benchmarks:

`-xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias`

Fortran benchmarks:

`-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch`

Benchmarks using both Fortran and C:

`-xAVX -ipo -O3 -no-prec-div -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) -auto-ilp32
-ansi-alias`

470.lbm: `basepeak = yes`

482.sphinx3: `basepeak = yes`

C++ benchmarks:

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = 77.3

PRIMERGY BX924 S4, Intel Xeon E5-2640 v2, 2.00 GHz

SPECfp_base2006 = 74.4

CPU2006 license: 19

Test date: Oct-2013

Test sponsor: Fujitsu

Hardware Availability: Oct-2013

Tested by: Fujitsu

Software Availability: Sep-2013

Peak Optimization Flags (Continued)

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.dealIII: 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

Fortran benchmarks:

410.bwaves: basepeak = yes

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-

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

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

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

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-ic14.0-official-linux64.20140128.html>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20131009.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20131009.xml>



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = 77.3

PRIMERGY BX924 S4, Intel Xeon E5-2640 v2, 2.00 GHz

SPECfp_base2006 = 74.4

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Oct-2013

Hardware Availability: Oct-2013

Software Availability: Sep-2013

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 v1.2.
Report generated on Thu Jul 24 17:23:59 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 19 November 2013.