



SPEC® CFP2006 Result

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Fujitsu

SPECfp®2006 = 43.0

PRIMERGY BX620 S6, Intel Xeon X5650, 2.67 GHz

SPECfp_base2006 = 40.1

CPU2006 license: 19

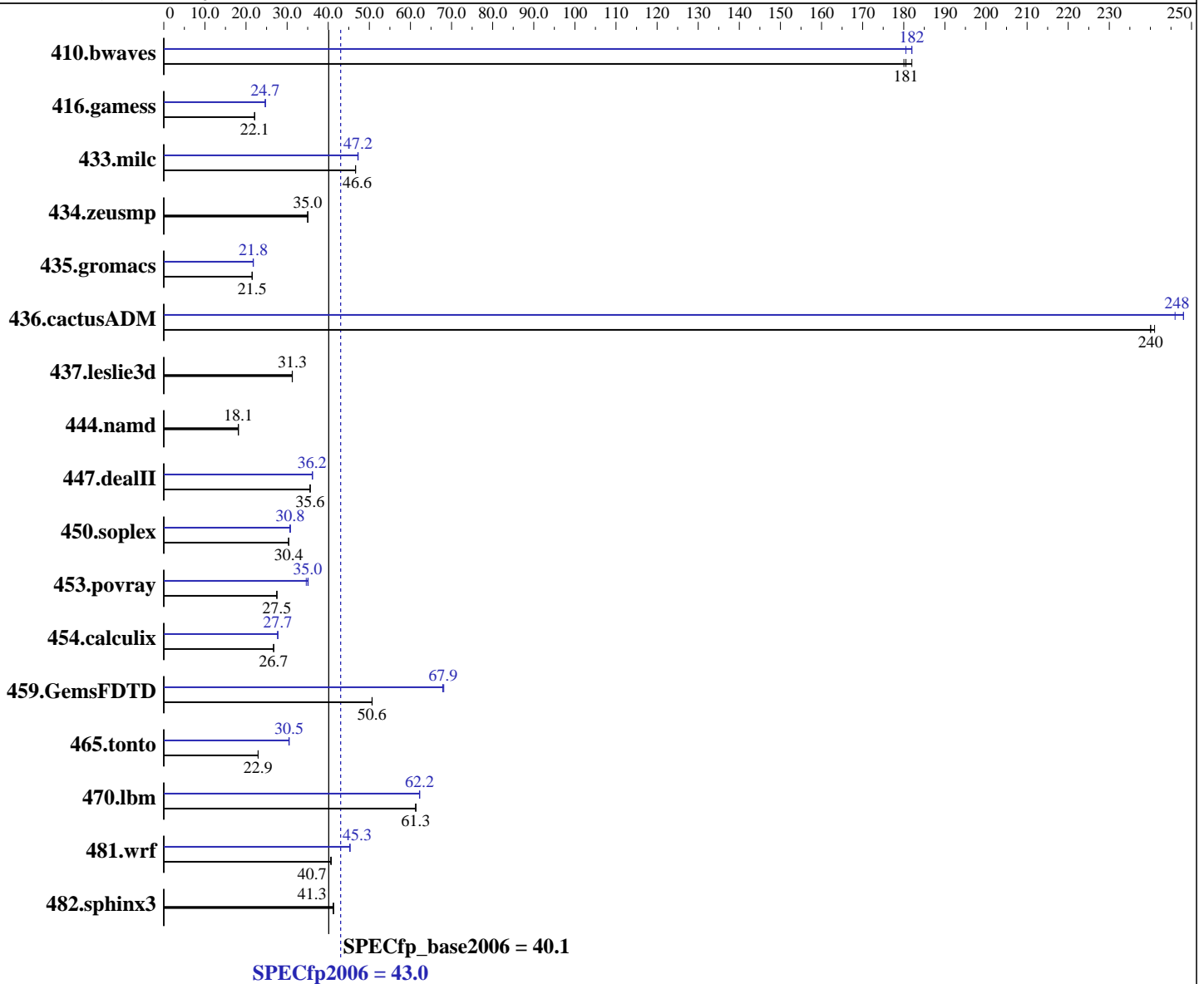
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Aug-2010

Hardware Availability: Aug-2010

Software Availability: Jan-2010



Hardware

CPU Name: Intel Xeon X5650
 CPU Characteristics: Intel Turbo Boost Technology up to 3.06 GHz
 CPU MHz: 2667
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip
 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

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Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64) with SP1, Kernel 2.6.32.12-0.7-default
 Compiler: Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064, l_cprof_p_11.1.064
 Auto Parallel: Yes
 File System: ext3
 System State: Run level 3 (multi-user)

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L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (12x4 GB PC3-10600R, 2 rank, CL9-9-9, ECC)
Disk Subsystem: 1 x SAS, 300 GB, 10000 RPM
Other Hardware: None

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	75.5	180	<u>75.3</u>	<u>181</u>	74.7	182	<u>74.7</u>	<u>182</u>	74.7	182	75.3	181
416.gamess	885	22.1	<u>886</u>	<u>22.1</u>	887	22.1	792	24.7	<u>793</u>	<u>24.7</u>	794	24.7
433.milc	<u>197</u>	<u>46.6</u>	197	46.7	197	46.6	<u>194</u>	<u>47.2</u>	194	47.3	195	47.2
434.zeusmp	260	35.0	<u>260</u>	<u>35.0</u>	260	35.0	260	35.0	<u>260</u>	<u>35.0</u>	260	35.0
435.gromacs	332	21.5	332	21.5	<u>332</u>	<u>21.5</u>	<u>328</u>	<u>21.8</u>	328	21.8	329	21.7
436.cactusADM	49.6	241	49.8	240	<u>49.8</u>	<u>240</u>	48.2	248	48.6	246	<u>48.2</u>	<u>248</u>
437.leslie3d	<u>301</u>	<u>31.3</u>	301	31.3	301	31.2	<u>301</u>	<u>31.3</u>	301	31.3	301	31.2
444.namd	442	18.1	<u>442</u>	<u>18.1</u>	442	18.1	442	18.1	<u>442</u>	<u>18.1</u>	442	18.1
447.dealII	321	35.6	321	35.6	<u>321</u>	<u>35.6</u>	<u>316</u>	<u>36.2</u>	317	36.1	316	36.2
450.soplex	275	30.3	274	30.4	<u>275</u>	<u>30.4</u>	272	30.7	<u>271</u>	<u>30.8</u>	271	30.8
453.povray	193	27.5	<u>193</u>	<u>27.5</u>	193	27.5	151	35.1	154	34.6	<u>152</u>	<u>35.0</u>
454.calculix	<u>309</u>	<u>26.7</u>	309	26.7	309	26.7	297	27.7	298	27.7	<u>298</u>	<u>27.7</u>
459.GemsFDTD	209	50.7	209	50.6	<u>209</u>	<u>50.6</u>	156	67.8	<u>156</u>	<u>67.9</u>	156	68.1
465.tonto	<u>429</u>	<u>22.9</u>	429	22.9	429	22.9	323	30.5	323	30.4	<u>323</u>	<u>30.5</u>
470.lbm	224	61.3	224	61.3	<u>224</u>	<u>61.3</u>	<u>221</u>	<u>62.2</u>	221	62.2	221	62.2
481.wrf	<u>274</u>	<u>40.7</u>	274	40.8	275	40.6	247	45.3	<u>247</u>	<u>45.3</u>	247	45.3
482.sphinx3	473	41.2	<u>472</u>	<u>41.3</u>	471	41.3	473	41.2	<u>472</u>	<u>41.3</u>	471	41.3

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 stacksize to unlimited prior to run

Platform Notes

BIOS configuration:
Data Reuse Optimization = Disable
Intel HT Technology = Disable
Performance/Power Setting = Traditional



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General Notes

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
KMP_STACKSIZE set to 200M
For information about Fujitsu please visit: <http://www.fujitsu.com>
Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

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.deallI: -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 -parallel -opt-prefetch

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Base Optimization Flags (Continued)

C++ benchmarks:

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

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

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

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)
-ansi-alias`

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)
-parallel -ansi-alias -auto-ilp32`

482.sphinx3: `basepeak = yes`

C++ benchmarks:

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Peak Optimization Flags (Continued)

444.namd: basepeak = yes

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- -auto-ilp32

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 -auto-ilp32

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

Fortran benchmarks:

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

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: basepeak = yes

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 -opt-prefetch -parallel

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)
-inline-calloc -opt-malloc-options=3 -auto -unroll4

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: -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 -opt-prefetch -parallel -auto-ilp32

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: Same as 454.calculix



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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100708.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100708.xml>

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