



SPEC® CFP2006 Result

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Fujitsu

SPECfp®2006 = **60.6**

PRIMERGY CX122 S1, Intel Xeon X5675, 3.07 GHz

SPECfp_base2006 = **57.4**

CPU2006 license: 19

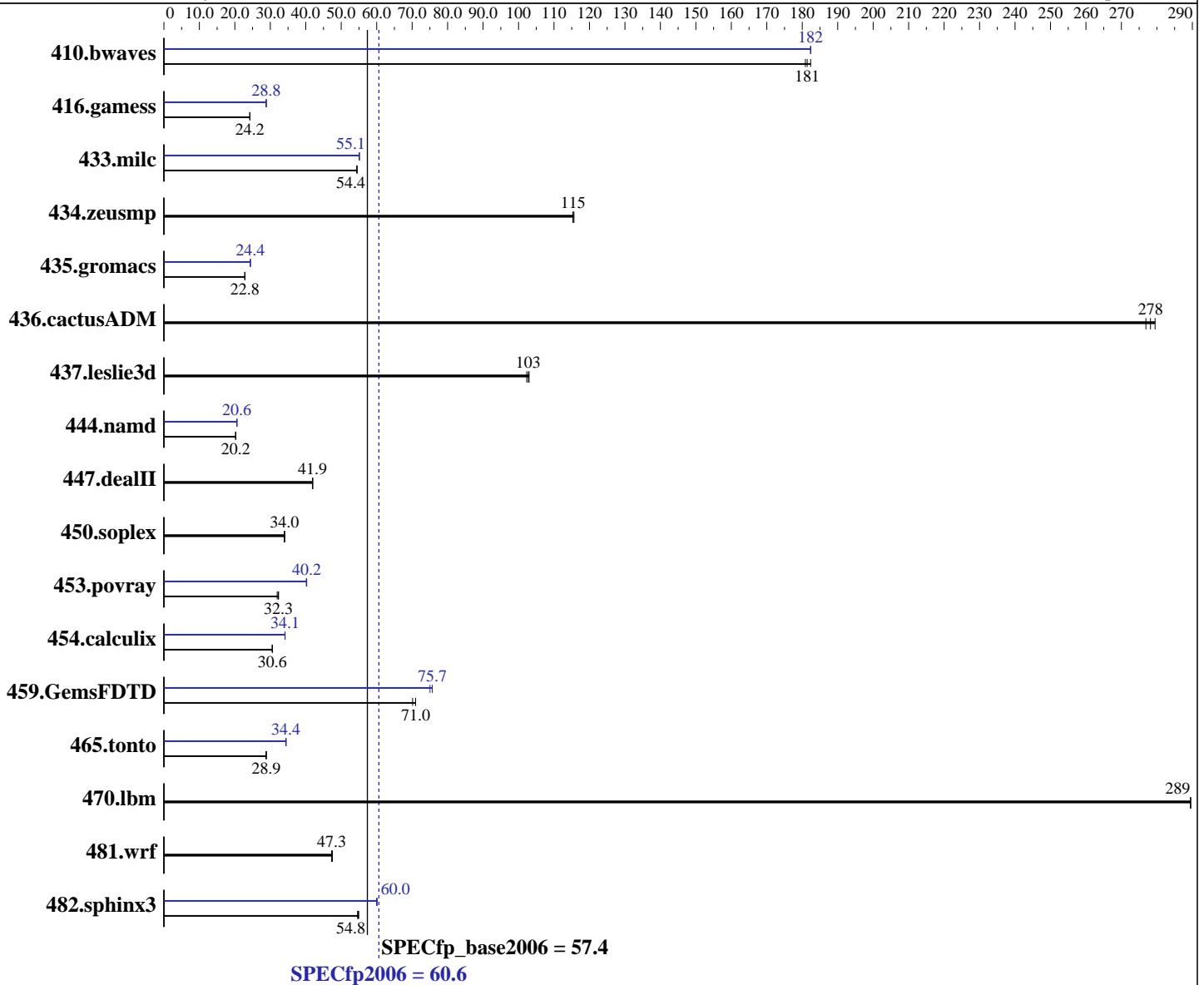
Test date: Feb-2011

Test sponsor: Fujitsu

Hardware Availability: Feb-2011

Tested by: Fujitsu

Software Availability: Apr-2011



Hardware

CPU Name: Intel Xeon X5675
 CPU Characteristics: Intel Turbo Boost Technology up to 3.47 GHz
 CPU MHz: 3067
 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 Intel 64 Compiler XE for applications running on Intel 64 Version 12.0 Update 3
 Auto Parallel: Yes
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit

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L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 96 GB (12 x 8 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem: 1 x SATA, 160 GB, 5400 RPM
Other Hardware: --

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 | 74.9 | 181 | 74.5 | 182 | 75.1 | 181 | 74.5 | 182 | 74.5 | 182 | 74.5 | 182 |
| 416.gamess | 807 | 24.3 | 808 | 24.2 | 808 | 24.2 | 678 | 28.9 | 680 | 28.8 | 679 | 28.8 |
| 433.milc | 169 | 54.4 | 169 | 54.4 | 169 | 54.4 | 167 | 55.1 | 167 | 55.1 | 167 | 55.1 |
| 434.zeusmp | 78.9 | 115 | 78.7 | 116 | 78.9 | 115 | 78.9 | 115 | 78.7 | 116 | 78.9 | 115 |
| 435.gromacs | 313 | 22.8 | 313 | 22.8 | 313 | 22.8 | 293 | 24.4 | 293 | 24.4 | 293 | 24.4 |
| 436.cactusADM | 43.0 | 278 | 43.2 | 277 | 42.8 | 279 | 43.0 | 278 | 43.2 | 277 | 42.8 | 279 |
| 437.leslie3d | 91.5 | 103 | 91.9 | 102 | 91.3 | 103 | 91.5 | 103 | 91.9 | 102 | 91.3 | 103 |
| 444.namd | 396 | 20.3 | 397 | 20.2 | 396 | 20.2 | 389 | 20.6 | 390 | 20.6 | 390 | 20.6 |
| 447.dealII | 273 | 41.9 | 273 | 41.9 | 273 | 41.9 | 273 | 41.9 | 273 | 41.9 | 273 | 41.9 |
| 450.soplex | 245 | 34.1 | 246 | 33.9 | 245 | 34.0 | 245 | 34.1 | 246 | 33.9 | 245 | 34.0 |
| 453.povray | 165 | 32.3 | 167 | 31.9 | 165 | 32.3 | 132 | 40.3 | 132 | 40.2 | 133 | 40.1 |
| 454.calculix | 270 | 30.6 | 271 | 30.5 | 269 | 30.6 | 242 | 34.2 | 242 | 34.1 | 242 | 34.1 |
| 459.GemsFDTD | 149 | 71.0 | 151 | 70.1 | 149 | 71.0 | 141 | 75.0 | 140 | 75.7 | 140 | 75.7 |
| 465.tonto | 341 | 28.9 | 341 | 28.9 | 341 | 28.8 | 286 | 34.5 | 286 | 34.4 | 286 | 34.4 |
| 470.lbm | 47.5 | 289 | 47.5 | 289 | 47.5 | 289 | 47.5 | 289 | 47.5 | 289 | 47.5 | 289 |
| 481.wrf | 236 | 47.3 | 235 | 47.5 | 236 | 47.3 | 236 | 47.3 | 235 | 47.5 | 236 | 47.3 |
| 482.sphinx3 | 355 | 54.9 | 356 | 54.8 | 357 | 54.6 | 324 | 60.1 | 325 | 60.0 | 325 | 60.0 |

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
Hugepages were not configured on the system

Platform Notes

BIOS configuration:
Data Reuse Optimization = Disable
Intel HT Technology = Disable



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General Notes

OMP_NUM_THREADS set to number of cores

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

Binaries were compiled on RHEL5.5 with binutils-2.17.50.0.6-14.el5

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 -parallel -opt-prefetch
-ansi-alias

C++ benchmarks:

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

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Base Optimization Flags (Continued)

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
-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: `-xSSE4.2(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: `basepeak = yes`

482.sphinx3: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -ansi-alias
-parallel`

C++ benchmarks:

444.namd: `-xSSE4.2(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`

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Peak Optimization Flags (Continued)

447.deallI: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xSSE4.2(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

Fortran benchmarks:

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

416.gamess: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2(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

436.cactusADM: basepeak = yes

454.calculix: -xSSE4.2 -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-ic12.0-linux64-revB.20110316.html>

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110316.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.20110316.xml>

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110316.xml>

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