



SPEC® CFP2006 Result

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Fujitsu

SPECfp®2006 = **67.6**

PRIMERGY TX300 S7, Intel Xeon E5-2637, 3.0 GHz

SPECfp_base2006 = **65.7**

CPU2006 license: 19

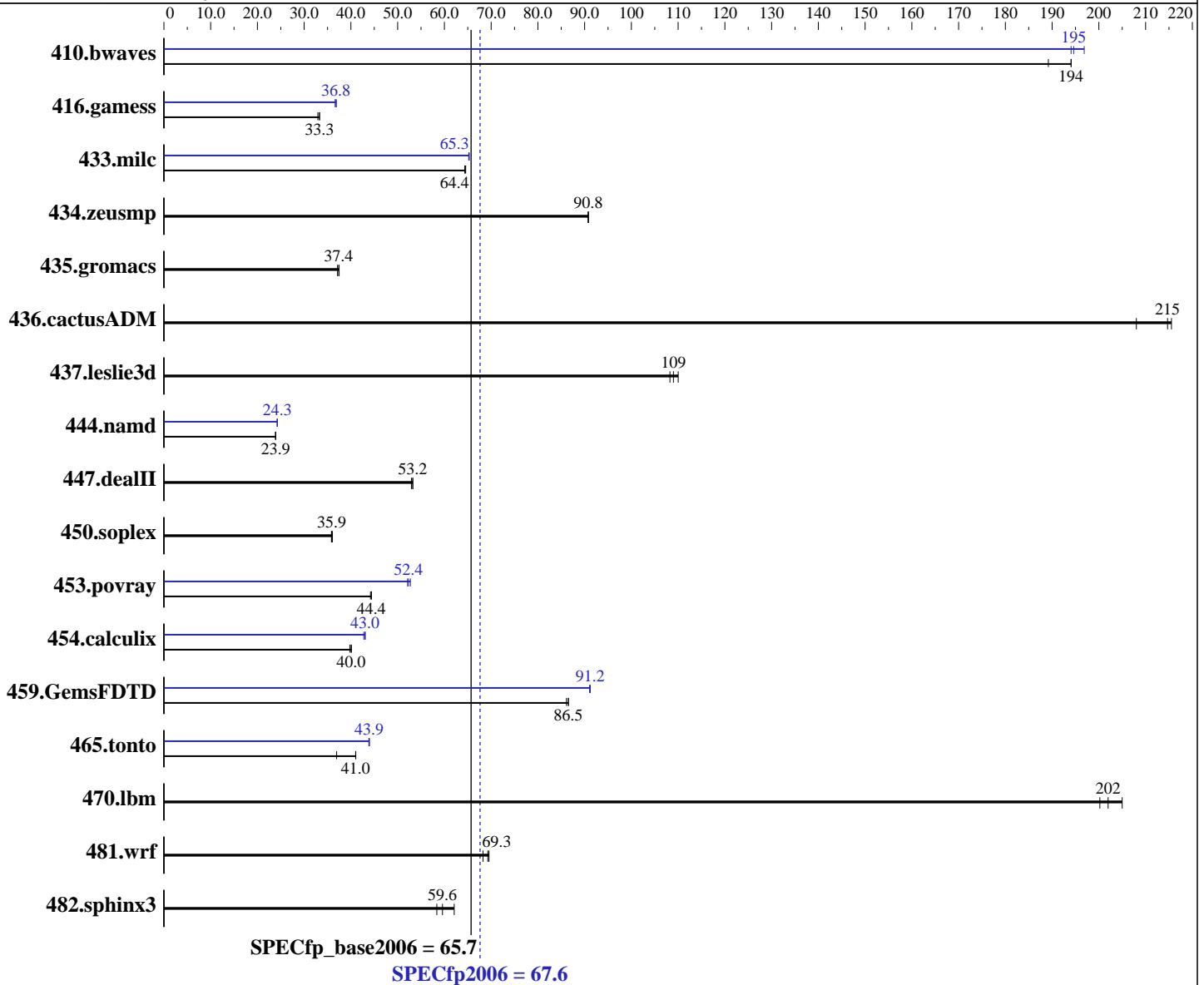
Test date: Feb-2012

Test sponsor: Fujitsu

Hardware Availability: Mar-2012

Tested by: Fujitsu

Software Availability: Dec-2011



Hardware

CPU Name: Intel Xeon E5-2637
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 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: Red Hat Enterprise Linux Server release 6.2 (Santiago)
 2.6.32-220.el6.x86_64
 Compiler: C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux;
 Fortran: Version 12.1.0.225 of Intel Fortran Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4

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L3 Cache: 5 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (16 x 8 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 | 71.8 | 189 | 70.0 | 194 | 70.0 | 194 | 69.8 | 195 | 70.0 | 194 | 69.0 | 197 |
| 416.gamess | 588 | 33.3 | 595 | 32.9 | 588 | 33.3 | 531 | 36.9 | 532 | 36.8 | 535 | 36.6 |
| 433.milc | 143 | 64.4 | 142 | 64.6 | 142 | 64.4 | 141 | 65.3 | 141 | 65.2 | 141 | 65.3 |
| 434.zeusmp | 100 | 90.8 | 100 | 90.8 | 100 | 90.8 | 100 | 90.8 | 100 | 90.8 | 100 | 90.8 |
| 435.gromacs | 191 | 37.5 | 192 | 37.1 | 191 | 37.4 | 191 | 37.5 | 192 | 37.1 | 191 | 37.4 |
| 436.cactusADM | 55.7 | 215 | 55.4 | 216 | 57.4 | 208 | 55.7 | 215 | 55.4 | 216 | 57.4 | 208 |
| 437.leslie3d | 85.4 | 110 | 86.8 | 108 | 86.2 | 109 | 85.4 | 110 | 86.8 | 108 | 86.2 | 109 |
| 444.namd | 336 | 23.9 | 336 | 23.9 | 336 | 23.9 | 331 | 24.3 | 331 | 24.2 | 331 | 24.3 |
| 447.dealII | 215 | 53.2 | 216 | 52.9 | 215 | 53.2 | 215 | 53.2 | 216 | 52.9 | 215 | 53.2 |
| 450.soplex | 232 | 35.9 | 233 | 35.8 | 231 | 36.0 | 232 | 35.9 | 233 | 35.8 | 231 | 36.0 |
| 453.povray | 120 | 44.4 | 120 | 44.4 | 120 | 44.2 | 102 | 52.4 | 101 | 52.7 | 102 | 52.1 |
| 454.calculix | 206 | 40.0 | 206 | 40.1 | 207 | 39.8 | 192 | 43.0 | 193 | 42.8 | 192 | 43.1 |
| 459.GemsFDTD | 123 | 86.1 | 123 | 86.5 | 123 | 86.5 | 116 | 91.2 | 116 | 91.2 | 117 | 91.0 |
| 465.tonto | 266 | 36.9 | 240 | 41.0 | 240 | 41.0 | 224 | 43.8 | 224 | 44.0 | 224 | 43.9 |
| 470.lbm | 68.6 | 200 | 68.0 | 202 | 67.0 | 205 | 68.6 | 200 | 68.0 | 202 | 67.0 | 205 |
| 481.wrf | 161 | 69.5 | 164 | 68.3 | 161 | 69.3 | 161 | 69.5 | 164 | 68.3 | 161 | 69.3 |
| 482.sphinx3 | 314 | 62.1 | 327 | 59.6 | 334 | 58.4 | 314 | 62.1 | 327 | 59.6 | 334 | 58.4 |

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:
Intel HT Technology = Disable
Frequency Floor Override = Enable

General Notes

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

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General Notes (Continued)

OMP_NUM_THREADS = "4"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5

Transparent Huge Pages enabled with:

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

This result was measured on the PRIMERGY RX350 S7. The PRIMERGY RX350 S7 and the PRIMERGY TX300 S7 are electronically equivalent.

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



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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: basepeak = yes`

`482.sphinx3: basepeak = yes`

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Peak Optimization Flags (Continued)

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

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

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/Fujitsu-Platform.20120320.html>

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html>



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

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.xml>

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>

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

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