# SPEC® CFP2006 Result



## Fujitsu

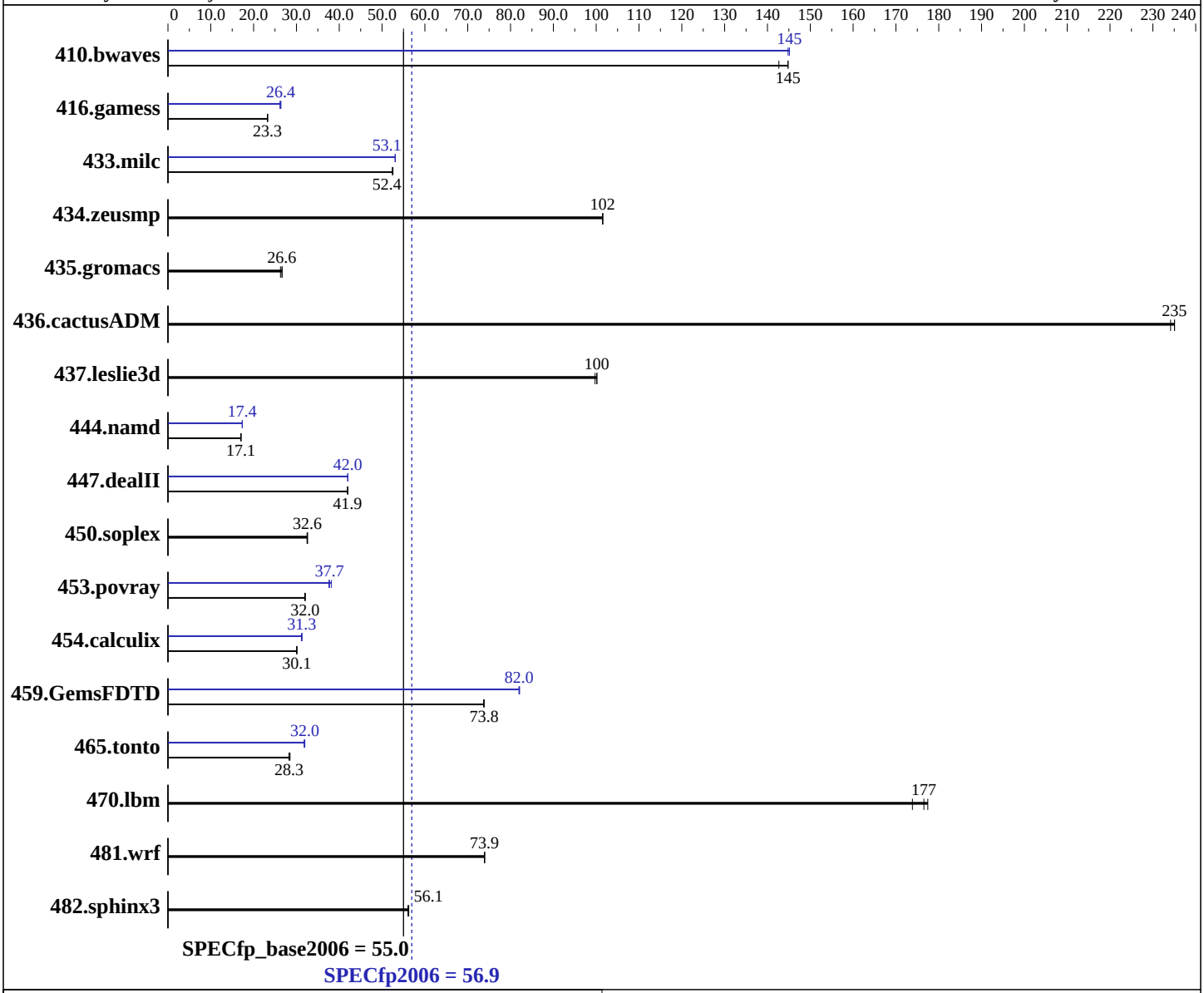
PRIMERGY TX150 S8, Intel Xeon E5-2430L, 2.0 GHz

SPECfp®2006 = 56.9

SPECfp_base2006 = 55.0

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

**Test date:** Jun-2012
**Hardware Availability:** Jul-2012
**Software Availability:** Feb-2012




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5-2430L |
| CPU Characteristics: | Intel Turbo Boost Technology up to 2.50 GHz |
| CPU MHz: | 2000 |
| FPU: | Integrated |
| CPU(s) enabled: | 6 cores, 1 chip, 6 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 |

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## Software

| | |
|---|---|
| Operating System: | Red Hat Enterprise Linux Server release 6.2 (Santiago)<br>2.6.32-220.el6.x86_64 |
| Compiler: | C/C++: Version 12.1.0.293 of Intel C++ Studio XE for Linux;<br>Fortran: Version 12.1.0.293 of Intel Fortran Studio XE for Linux |
| Auto Parallel: | Yes |
| File System: | ext4 |

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L3 Cache: 15 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (6 x 8 GB 2Rx4 PC3L-12800R-11, ECC, running at 1333 MHz and CL9)
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 | 95.3 | 143 | 93.8 | 145 | **93.8** | **145** | 93.6 | 145 | 93.8 | 145 | **93.6** | **145** |
| 416.gamess | **842** | **23.3** | 841 | 23.3 | 843 | 23.2 | 743 | 26.4 | 749 | 26.2 | **743** | **26.4** |
| 433.milc | 175 | 52.6 | 175 | 52.4 | **175** | **52.4** | **173** | **53.1** | 173 | 53.1 | 173 | 53.1 |
| 434.zeusmp | **89.6** | **102** | 89.6 | 102 | 89.6 | 102 | **89.6** | **102** | 89.6 | 102 | 89.6 | 102 |
| 435.gromacs | 268 | 26.6 | **268** | **26.6** | 272 | 26.3 | 268 | 26.6 | **268** | **26.6** | 272 | 26.3 |
| 436.cactusADM | **50.8** | **235** | 51.0 | 234 | 50.8 | 235 | **50.8** | **235** | 51.0 | 234 | 50.8 | 235 |
| 437.leslie3d | **93.8** | **100** | 94.2 | 99.7 | 93.8 | 100 | **93.8** | **100** | 94.2 | 99.7 | 93.8 | 100 |
| 444.namd | **470** | **17.1** | 470 | 17.1 | 470 | 17.1 | **462** | **17.4** | 462 | 17.3 | 462 | 17.4 |
| 447.dealII | 273 | 41.9 | 272 | 42.0 | **273** | **41.9** | 273 | 42.0 | 272 | 42.0 | **272** | **42.0** |
| 450.soplex | **256** | **32.6** | 256 | 32.6 | 257 | 32.5 | **256** | **32.6** | 256 | 32.6 | 257 | 32.5 |
| 453.povray | **166** | **32.0** | 166 | 32.0 | 166 | 32.1 | **141** | **37.7** | 139 | 38.2 | 141 | 37.6 |
| 454.calculix | **274** | **30.1** | 274 | 30.1 | 274 | 30.1 | 265 | 31.2 | **264** | **31.3** | 264 | 31.3 |
| 459.GemsFDTD | 144 | 73.8 | **144** | **73.8** | 144 | 73.7 | **129** | **82.0** | 129 | 82.1 | 129 | 82.0 |
| 465.tonto | 348 | 28.3 | 345 | 28.5 | **348** | **28.3** | 308 | 32.0 | **308** | **32.0** | 310 | 31.8 |
| 470.lbm | 77.4 | 177 | 79.0 | 174 | **77.8** | **177** | 77.4 | 177 | 79.0 | 174 | **77.8** | **177** |
| 481.wrf | 151 | 73.9 | 151 | 73.9 | **151** | **73.9** | 151 | 73.9 | 151 | 73.9 | **151** | **73.9** |
| 482.sphinx3 | 348 | 56.1 | **347** | **56.1** | 347 | 56.2 | 348 | 56.1 | **347** | **56.1** | 347 | 56.2 |

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"
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```

## 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"
OMP_NUM_THREADS = "6"

 Binaries compiled on a system with 1x E3-1270v2 CPU + 32 GB
 memory using RHEL6.2
 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
```

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

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: -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

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-ic12.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.html

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

http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.xml



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

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