# SPEC® CFP2006 Result

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## Fujitsu

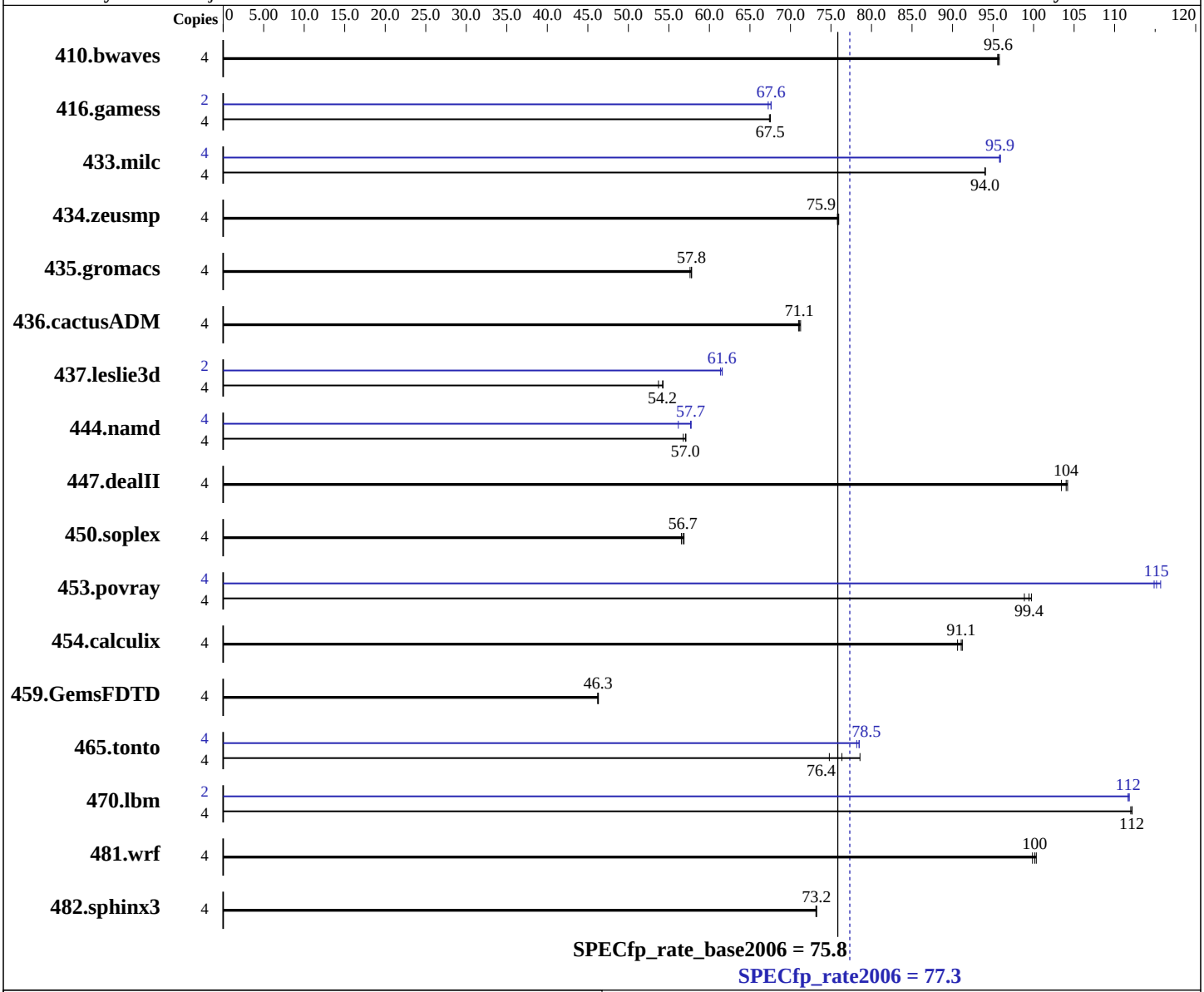
PRIMERGY TX120 S3, Intel Core i3-2120, 3.30 GHz

SPECfp®_rate2006 = 77.3

SPECfp_rate_base2006 = 75.8

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

**Test date:** May-2011
**Hardware Availability:** Jun-2011
**Software Availability:** Jan-2011




## Hardware

| | |
|---|---|
| CPU Name: | Intel Core i3-2120 |
| CPU Characteristics: | |
| CPU MHz: | 3300 |
| FPU: | Integrated |
| CPU(s) enabled: | 2 cores, 1 chip, 2 cores/chip, 2 threads/core |
| 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: | 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 12.0.1.116 Build 20101116 |
| Auto Parallel: | No |
| File System: | ext3 |
| System State: | Run level 3 (multi-user) |
| Base Pointers: | 64-bit |

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L3 Cache: 3 MB I+D on chip per chip
Other Cache: None
Memory: 8 GB (2 x 4 GB 2Rx8 PC3-10600E-9, ECC)
Disk Subsystem: 1 x SATA, 300 GB, 7200 RPM
Other Hardware: None

Peak Pointers: 32/64-bit
Other Software: None

## Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 4 | 568 | 95.8 | **568** | **95.6** | 569 | 95.6 | 4 | 568 | 95.8 | **568** | **95.6** | 569 | 95.6 |
| 416.gamess | 4 | **1160** | **67.5** | 1162 | 67.4 | 1160 | 67.5 | 2 | **579** | **67.6** | 582 | 67.3 | 579 | 67.6 |
| 433.milc | 4 | 391 | 94.0 | 390 | 94.1 | **391** | **94.0** | 4 | 383 | 95.9 | 383 | 95.8 | **383** | **95.9** |
| 434.zeusmp | 4 | 479 | 76.0 | 480 | 75.8 | **480** | **75.9** | 4 | 479 | 76.0 | 480 | 75.8 | **480** | **75.9** |
| 435.gromacs | 4 | 494 | 57.8 | **494** | **57.8** | 496 | 57.6 | 4 | 494 | 57.8 | **494** | **57.8** | 496 | 57.6 |
| 436.cactusADM | 4 | 673 | 71.0 | 671 | 71.2 | **672** | **71.1** | 4 | 673 | 71.0 | 671 | 71.2 | **672** | **71.1** |
| 437.leslie3d | 4 | 700 | 53.7 | **694** | **54.2** | 693 | 54.3 | 2 | **305** | **61.6** | 306 | 61.4 | 305 | 61.6 |
| 444.namd | 4 | 562 | 57.1 | 565 | 56.8 | **562** | **57.0** | 4 | 555 | 57.8 | 571 | 56.2 | **556** | **57.7** |
| 447.dealII | 4 | 442 | 103 | **440** | **104** | 439 | 104 | 4 | 442 | 103 | **440** | **104** | 439 | 104 |
| 450.soplex | 4 | 587 | 56.9 | 590 | 56.5 | **588** | **56.7** | 4 | 587 | 56.9 | 590 | 56.5 | **588** | **56.7** |
| 453.povray | 4 | 213 | 99.7 | 215 | 98.9 | **214** | **99.4** | 4 | 185 | 115 | 184 | 116 | **185** | **115** |
| 454.calculix | 4 | 362 | 91.2 | **362** | **91.1** | 364 | 90.6 | 4 | 362 | 91.2 | **362** | **91.1** | 364 | 90.6 |
| 459.GemsFDTD | 4 | **917** | **46.3** | 918 | 46.2 | 917 | 46.3 | 4 | **917** | **46.3** | 918 | 46.2 | 917 | 46.3 |
| 465.tonto | 4 | 501 | 78.6 | **516** | **76.4** | 526 | 74.8 | 4 | **502** | **78.5** | 503 | 78.2 | 502 | 78.5 |
| 470.lbm | 4 | 491 | 112 | 490 | 112 | **490** | **112** | 2 | 246 | 112 | **246** | **112** | 246 | 112 |
| 481.wrf | 4 | 447 | 99.9 | 445 | 100 | **446** | **100** | 4 | 447 | 99.9 | 445 | 100 | **446** | **100** |
| 482.sphinx3 | 4 | **1065** | **73.2** | 1066 | 73.1 | 1065 | 73.2 | 4 | **1065** | **73.2** | 1066 | 73.1 | 1065 | 73.2 |

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

## Submit Notes

```
The config file option 'submit' was used.
 numactl was used to bind copies to the cores
```

## Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
 Large pages were not enabled for this run
```

## General Notes

```
For information about Fujitsu please visit: http://www.fujitsu.com
Binaries were compiled on RHEL5.5
This result was measured on the PRIMERGY TX140 S1. The PRIMERGY TX120 S3
```

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## General Notes (Continued)

and the PRIMERGY TX140 S1 are electronically equivalent.

## 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 -ansi-alias

C++ benchmarks:
-xAVX -ipo -O3 -no-prec-div -static -ansi-alias

Fortran benchmarks:
-xAVX -ipo -O3 -no-prec-div -static

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## Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
-xAVX -ipo -O3 -no-prec-div -static -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

470.lbm: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3 -ansi-alias -opt-prefetch -auto-ilp32

482.sphinx3: basepeak = yes

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

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## Peak Optimization Flags (Continued)

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
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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- -static

434.zeusmp: basepeak = yes

437.leslie3d: -xAVX -ipo -O3 -no-prec-div
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

459.GemsFDTD: basepeak = yes

465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto
-inline-calloc -opt-malloc-options=3
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

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/Fujitsu-Platform.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/Fujitsu-Platform.xml

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For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 18:30:57 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 7 June 2011.