# SPEC® CFP2006 Result

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## Fujitsu

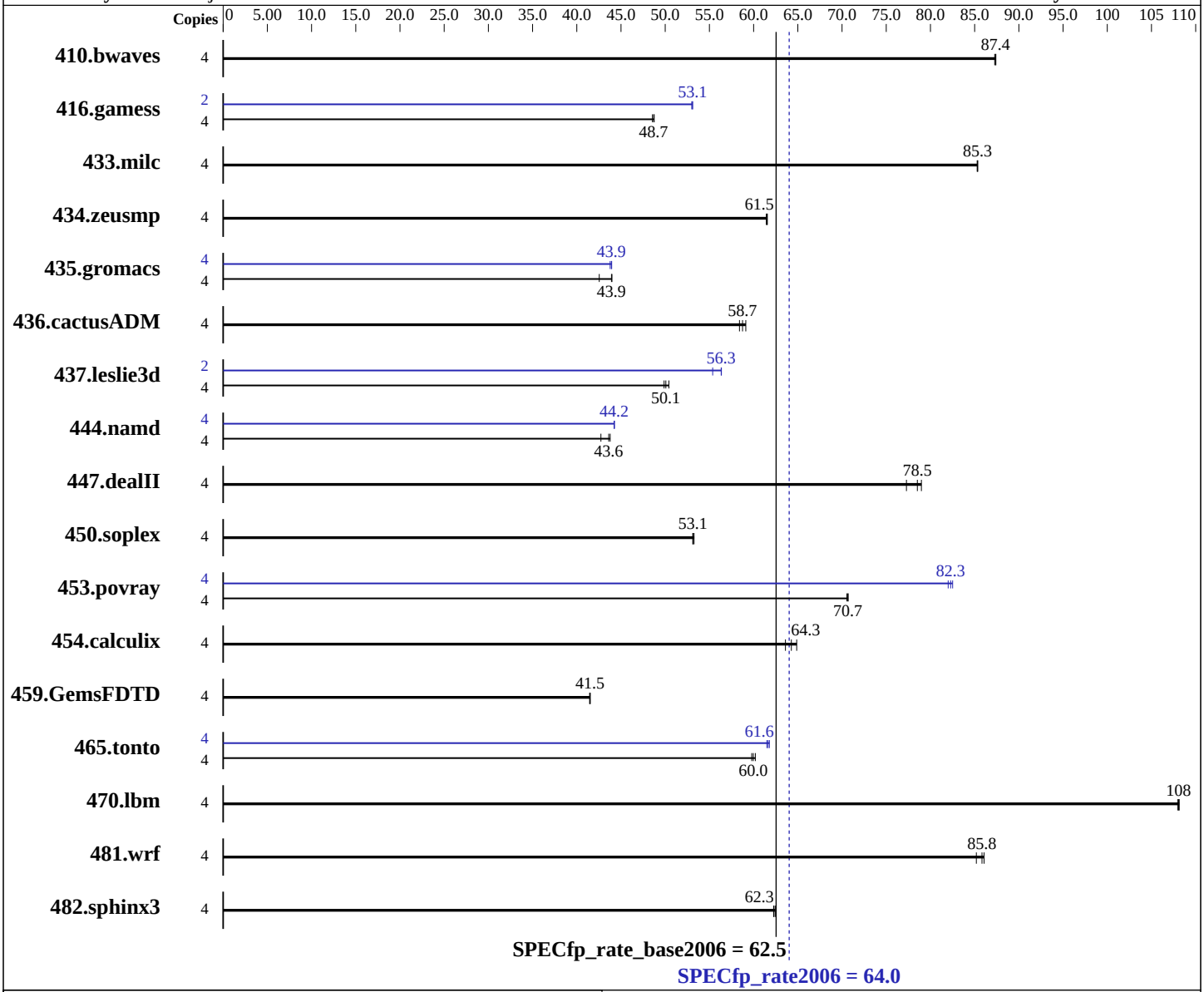
PRIMERGY TX120 S3, Intel Xeon E3-1220L, 2.20 GHz

SPECfp®_rate2006 = 64.0

SPECfp_rate_base2006 = 62.5

**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 Xeon E3-1220L |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.40 GHz |
| CPU MHz: | 2200 |
| 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 | **622** | **87.4** | 623 | 87.3 | 622 | 87.4 | 4 | **622** | **87.4** | 623 | 87.3 | 622 | 87.4 |
| 416.gamess | 4 | **1608** | **48.7** | 1613 | 48.6 | 1606 | 48.8 | 2 | 739 | 53.0 | **738** | **53.1** | 738 | 53.1 |
| 433.milc | 4 | **430** | **85.3** | 431 | 85.3 | 430 | 85.3 | 4 | **430** | **85.3** | 431 | 85.3 | 430 | 85.3 |
| 434.zeusmp | 4 | 593 | 61.4 | 591 | 61.6 | **592** | **61.5** | 4 | 593 | 61.4 | 591 | 61.6 | **592** | **61.5** |
| 435.gromacs | 4 | 649 | 44.0 | **650** | **43.9** | 671 | 42.5 | 4 | **650** | **43.9** | 652 | 43.8 | 650 | 43.9 |
| 436.cactusADM | 4 | 809 | 59.1 | 818 | 58.4 | **814** | **58.7** | 4 | 809 | 59.1 | 818 | 58.4 | **814** | **58.7** |
| 437.leslie3d | 4 | 746 | 50.4 | **751** | **50.1** | 754 | 49.9 | 2 | 340 | 55.4 | **334** | **56.3** | 334 | 56.4 |
| 444.namd | 4 | **736** | **43.6** | 733 | 43.8 | 751 | 42.7 | 4 | **725** | **44.2** | 725 | 44.3 | 725 | 44.2 |
| 447.dealII | 4 | 592 | 77.3 | **583** | **78.5** | 579 | 79.0 | 4 | 592 | 77.3 | **583** | **78.5** | 579 | 79.0 |
| 450.soplex | 4 | 626 | 53.3 | **628** | **53.1** | 628 | 53.1 | 4 | 626 | 53.3 | **628** | **53.1** | 628 | 53.1 |
| 453.povray | 4 | 302 | 70.5 | **301** | **70.7** | 301 | 70.7 | 4 | 258 | 82.5 | **259** | **82.3** | 259 | 82.0 |
| 454.calculix | 4 | 519 | 63.6 | **513** | **64.3** | 509 | 64.9 | 4 | 519 | 63.6 | **513** | **64.3** | 509 | 64.9 |
| 459.GemsFDTD | 4 | 1024 | 41.4 | 1022 | 41.5 | **1023** | **41.5** | 4 | 1024 | 41.4 | 1022 | 41.5 | **1023** | **41.5** |
| 465.tonto | 4 | 654 | 60.2 | 658 | 59.8 | **656** | **60.0** | 4 | 640 | 61.5 | **639** | **61.6** | 637 | 61.8 |
| 470.lbm | 4 | 509 | 108 | 508 | 108 | **509** | **108** | 4 | 509 | 108 | 508 | 108 | **509** | **108** |
| 481.wrf | 4 | 519 | 86.1 | 524 | 85.2 | **521** | **85.8** | 4 | 519 | 86.1 | 524 | 85.2 | **521** | **85.8** |
| 482.sphinx3 | 4 | 1252 | 62.3 | 1249 | 62.4 | **1251** | **62.3** | 4 | 1252 | 62.3 | 1249 | 62.4 | **1251** | **62.3** |

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

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For information about Fujitsu please visit: http://www.fujitsu.com
Binaries were compiled on RHEL5.5
```

## 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

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: basepeak = yes

470.lbm: basepeak = yes

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

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

Continued on next page

## Peak Optimization Flags (Continued)

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: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
-static -auto-ilp32

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.

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