# SPEC® CFP2006 Result

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## Fujitsu

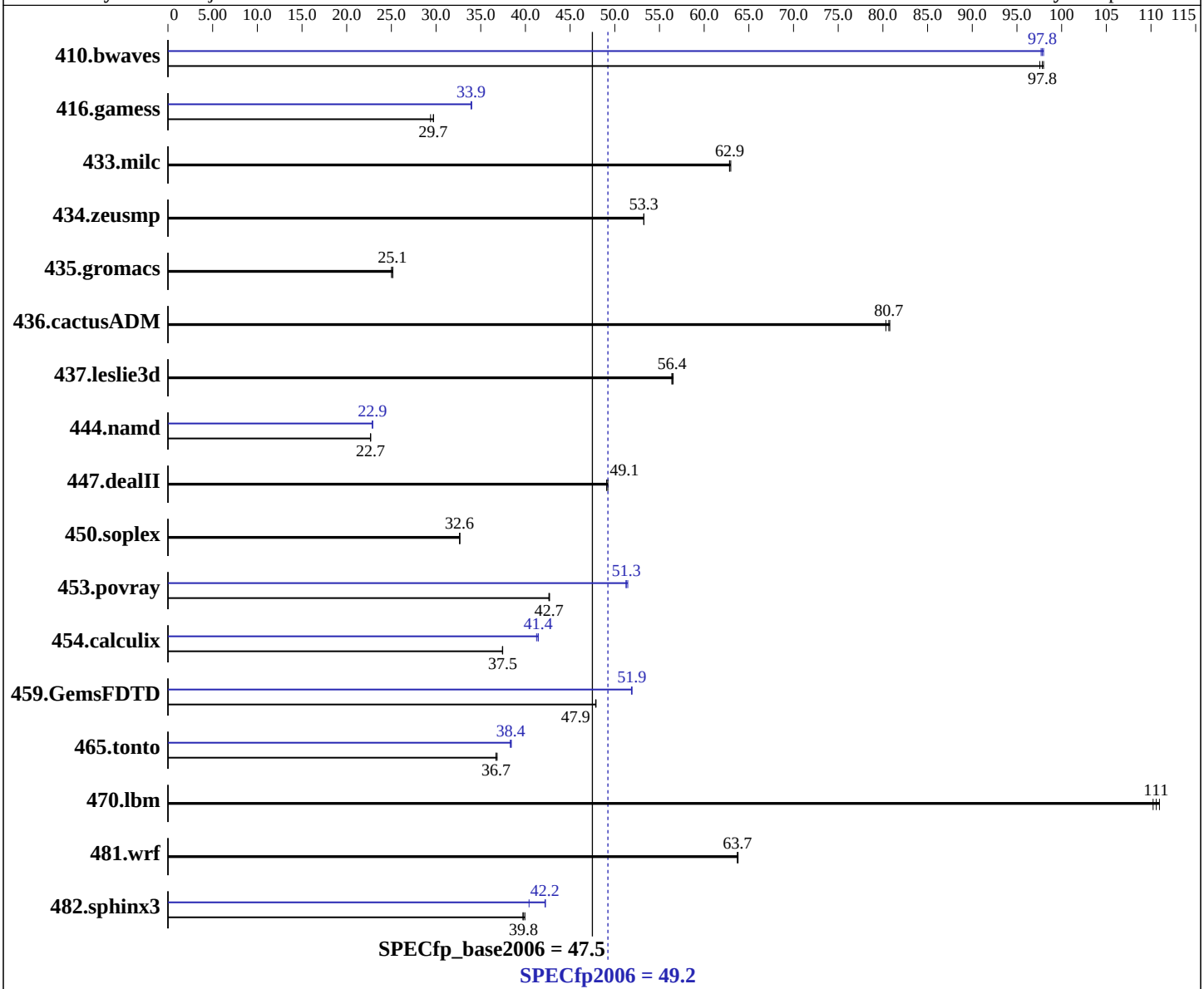
PRIMERGY TX140 S1, Intel Core i3-2120, 3.30 GHz

SPECfp®2006 = 49.2

SPECfp_base2006 = 47.5

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

**Test date:** May-2011
**Hardware Availability:** Jun-2011
**Software Availability:** Apr-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 |
| 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 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: 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 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 139 | 97.6 | 139 | 98.0 | **139** | **97.8** | 139 | 97.7 | **139** | **97.8** | 139 | 98.0 |
| 416.gamess | 666 | 29.4 | **659** | **29.7** | 659 | 29.7 | **577** | **33.9** | 577 | 33.9 | 576 | 34.0 |
| 433.milc | 146 | 62.8 | 146 | 63.0 | **146** | **62.9** | 146 | 62.8 | 146 | 63.0 | **146** | **62.9** |
| 434.zeusmp | 171 | 53.3 | 171 | 53.3 | **171** | **53.3** | 171 | 53.3 | 171 | 53.3 | **171** | **53.3** |
| 435.gromacs | 286 | 25.0 | 284 | 25.2 | **284** | **25.1** | 286 | 25.0 | 284 | 25.2 | **284** | **25.1** |
| 436.cactusADM | 148 | 80.8 | 149 | 80.3 | **148** | **80.7** | 148 | 80.8 | 149 | 80.3 | **148** | **80.7** |
| 437.leslie3d | **167** | **56.4** | 166 | 56.5 | 167 | 56.4 | **167** | **56.4** | 166 | 56.5 | 167 | 56.4 |
| 444.namd | **354** | **22.7** | 354 | 22.7 | 354 | 22.7 | **350** | **22.9** | 351 | 22.9 | 350 | 22.9 |
| 447.dealII | 233 | 49.1 | **233** | **49.1** | 232 | 49.2 | 233 | 49.1 | **233** | **49.1** | 232 | 49.2 |
| 450.soplex | 256 | 32.6 | 255 | 32.7 | **256** | **32.6** | 256 | 32.6 | 255 | 32.7 | **256** | **32.6** |
| 453.povray | 125 | 42.6 | **125** | **42.7** | 125 | 42.7 | 103 | 51.5 | **104** | **51.3** | 104 | 51.3 |
| 454.calculix | 220 | 37.4 | **220** | **37.5** | 220 | 37.5 | 200 | 41.2 | **199** | **41.4** | 199 | 41.4 |
| 459.GemsFDTD | 221 | 47.9 | **222** | **47.9** | 222 | 47.9 | 205 | 51.9 | 204 | 51.9 | **204** | **51.9** |
| 465.tonto | **268** | **36.7** | 267 | 36.8 | 268 | 36.7 | 256 | 38.4 | 257 | 38.3 | **257** | **38.4** |
| 470.lbm | 125 | 110 | 124 | 111 | **124** | **111** | 125 | 110 | 124 | 111 | **124** | **111** |
| 481.wrf | **175** | **63.7** | 175 | 63.8 | 175 | 63.7 | **175** | **63.7** | 175 | 63.8 | 175 | 63.7 |
| 482.sphinx3 | **490** | **39.8** | 488 | 39.9 | 491 | 39.7 | 482 | 40.4 | **462** | **42.2** | 461 | 42.2 |

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
'nodev /mnt/hugepages hugetlbfs defaults 0 0' added to /etc/fstab
echo 900 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```

## Platform Notes

```
BIOS configuration:
Intel HT Technology = Disable
```

## 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
This result was measured on the PRIMERGY TX140 S1. The PRIMERGY TX120 S3
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 -parallel -opt-prefetch
-ansi-alias
```

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## Base Optimization Flags (Continued)

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: basepeak = yes

470.lbm: basepeak = yes

482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias -parallel

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

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## Peak Optimization Flags (Continued)

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

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 -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: -xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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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