## SPEC® CFP2006 Result

**Fujitsu**

**PRIMERGY BX922 S2, Intel Xeon X5687, 3.60 GHz**

| SPECfptm_rate2006 | 238 |
| SPECfptr_base2006 | 231 |

**CPU2006 license:** 19  
**Test date:** Feb-2011  
**Test sponsor:** Fujitsu  
**Hardware Availability:** Feb-2011  
**Tested by:** Fujitsu  
**Software Availability:** Jan-2011

### Hardware

| Tested By | Copies | 15.0 | 30.0 | 45.0 | 60.0 | 75.0 | 90.0 | 105 | 120 | 135 | 150 | 165 | 180 | 195 | 210 | 225 | 240 | 255 | 270 | 285 | 300 | 315 | 330 | 345 | 360 | 375 | 390 | 400 |
|-----------|-------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 410.bwaves | 8     | 16   | 194  |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 416.gamess  | 8     | 16   | 149  | 142  | 216  | 212  | 246  | 248 | 269  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 433.milc   | 16    | 16   | 168  | 158  | 231  |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 434.zeusmp | 16    | 16   | 231  |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 435.gromacs | 16   | 16   |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 436.cactusADM | 16 | 16   |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 437.leslie3d | 8    | 16   | 149  |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 444.namd   | 16    | 16   | 142  | 221  | 219  |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 447.dealII | 16    |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 450.soplex | 8     | 16   |      |      |      | 168  | 231  | 231 | 231  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 453.povray | 16    | 16   |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 454.calculix | 16  | 16   |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 459.GemsFDTD | 16 | 16   |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 465.tonto  | 16    | 16   |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 470.lbm    | 8     | 16   |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 481.wrf    | 16    | 16   |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 482.sphinx3 | 16   | 16   |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

### 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

### Continued on next page
## SPEC CFP2006 Result

**Fujitsu**

PRIMERGY BX922 S2, Intel Xeon X5687, 3.60 GHz

### SPECfpu_rate2006 = 238

### SPECfpu_rate_base2006 = 231

<table>
<thead>
<tr>
<th>CPU2006 license</th>
<th>19</th>
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<tr>
<td>Test sponsor</td>
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<td>Feb-2011</td>
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<tr>
<td>Software Availability</td>
<td>Jan-2011</td>
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</table>

**L3 Cache:** 12 MB I+D on chip per chip  
**Other Cache:** None  
**Memory:** 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)  
**Disk Subsystem:** 1 x SAS, 300 GB, 10000 RPM  
**Other Hardware:** --  
**Peak Pointers:** 32/64-bit  
**Other Software:** None

### Results Table

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</table>

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.  
Hugepages were not configured on the system.

### Platform Notes

BIOS configuration:  
Data Reuse Optimization = Disable  
Performance/Power Setting = Traditional
**SPEC CFP2006 Result**

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**CPU2006 license:** 19

**Test sponsor:** Fujitsu

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**Test date:** Feb-2011

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### General Notes

For information about Fujitsu please visit: http://www.fujitsu.com

Binaries were compiled on RHEL5.5 with binutils-2.17.50.0.6-14.el5

### 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 -nofor_main

465.tonto: -DSPEC_CPU_LP64

470.lbm: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

482.sphinx3: -DSPEC_CPU_LP64

### Base Optimization Flags

C benchmarks:

```
-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias
```

C++ benchmarks:

```
-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias
```

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**SPEC CFP2006 Result**

**Fujitsu**

PRIMERGY BX922 S2, Intel Xeon X5687, 3.60 GHz

| SPECfp_rate2006 = | 238 |
| SPECfp_rate_base2006 = | 231 |

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### Base Optimization Flags (Continued)

Fortran benchmarks:
- `-xSSE4.2 -ipo -O3 -no-prec-div -static`

Benchmarks using both Fortran and C:
- `-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias`

### Peak Compiler Invocation

**C** benchmarks (except as noted below):
- `icc -m64`
  
  482.sphinx3: `icc -m32`

**C++** benchmarks (except as noted below):
- `icpc -m64`
  
  450.soplex: `icpc -m32`

Fortran benchmarks:
- `ifort -m64`

Benchmarks using both Fortran and C:
- `icc -m64 ifort -m64`

### Peak Portability Flags

410.bwaves: `-DSPEC_CPU_LP64`
416.games: `-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`
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`
Fujitsu
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SPECfp_rate2006 = 238
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Peak Optimization Flags

C benchmarks:

433.milc: -xsse4.2 (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: -xsse4.2 (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 -static -auto-ilp32

482.sphinx3: -xsse4.2 -ipo -O3 -no-prec-div -unroll2

C++ benchmarks:

444.namd: -xsse4.2 (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: -xsse4.2 (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
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

453.povray: -xsse4.2 (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: -xsse4.2 (pass 2) -prof-gen (pass 1) -ipo (pass 2) -O3 (pass 2)
-no-prec-div (pass 2) -prof-use (pass 2) -static

416.games: -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 -scalar-rep -static

434.zeusmp: basepeak = yes

437.leslie3d: -xsse4.2 -ipo -O3 -no-prec-div
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

459.GemsFDTD: basepeak = yes

465.tonto: -xsse4.2 (pass 2) -prof-gen (pass 1) -ipo (pass 2) -O3 (pass 2)
-no-prec-div (pass 2) -prof-use (pass 2) -unroll4 -auto
-inline-callloc -opt-malloc-options=3
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Benchmarks using both Fortran and C:

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Peak Optimization Flags (Continued)

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-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 file that was used to format this result can be browsed at

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110222.00.xml

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

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