**Fujitsu**

**PRIMERGY BX620 S6, Intel Xeon X5670, 2.93 GHz**

<table>
<thead>
<tr>
<th>Software</th>
<th>Test Date: Aug-2010</th>
<th>Hardware Availability: Aug-2010</th>
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</thead>
<tbody>
<tr>
<td>SPECfp®_rate2006 = 248</td>
<td>SPECfp_rate_base2006 = 239</td>
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</table>

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

<table>
<thead>
<tr>
<th>Program</th>
<th>Hardware</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>Intel Xeon X5670</td>
<td>SUSE Linux Enterprise Server 11 (x86_64) with SP1, Kernel 2.6.32.12-0.7-default</td>
</tr>
<tr>
<td>416.gamess</td>
<td>Intel Turbo Boost Technology up to 3.33 GHz</td>
<td>Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1</td>
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<tr>
<td>433.milc</td>
<td>1.2 chips</td>
<td>Build 20091130 Package ID: l_cproc_p_11.1.064, l_cprof_p_11.1.064</td>
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<tr>
<td>434.zeusmp</td>
<td>12 cores, 2 chips, 6 cores/chip, 2 threads/core</td>
<td>No</td>
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<tr>
<td>435.gromacs</td>
<td>Integrated</td>
<td>ext3</td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>32 KB I + 32 KB D on chip per core</td>
<td>Multi-User Run Level 3</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>256 KB I+D on chip per core</td>
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<tr>
<td>444.namd</td>
<td>410.bwaves</td>
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<tr>
<td>447.dealII</td>
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<td>450.soplex</td>
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<td>481.wrf</td>
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<tr>
<td>482.sphinx3</td>
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</table>

**Hardware**

- **CPU Name:** Intel Xeon X5670  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.33 GHz  
- **CPU MHz:** 2933  
- **FPU:** Integrated  
- **CPU(s) enabled:** 12 cores, 2 chips, 6 cores/chip, 2 threads/core  
- **CPU(s) orderable:** 1,2 chips  
- **Primary Cache:** 32 KB I + 32 KB D on chip per core  
- **Secondary Cache:** 256 KB I+D on chip per core

**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 Professional Compiler for IA32 and Intel 64, Version 11.1  
- **Auto Parallel:** No  
- **File System:** ext3  
- **System State:** Multi-User Run Level 3
# Fujitsu

**PRIMERGY BX620 S6, Intel Xeon X5670, 2.93 GHz**

- **CPU2006 license:** 19
- **Test sponsor:** Fujitsu
- **Tested by:** Fujitsu
- **L3 Cache:** 12 MB I+D on chip per chip
- **Other Cache:** None
- **Memory:** 96 GB (12x8 GB PC3-10600R, 2 rank, CL9-9-9, ECC)
- **Disk Subsystem:** 1 x SAS, 300 GB, 10000 RPM
- **Other Hardware:** None
- **Base Pointers:** 64-bit
- **Peak Pointers:** 32/64-bit
- **Software Availability:** Jan-2010
- **Test date:** Aug-2010
- **Hardware Availability:** Aug-2010

## Results Table

<table>
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<td>232</td>
<td>2014</td>
<td>232</td>
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<td></td>
</tr>
</tbody>
</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.

## Platform Notes

- BIOS configuration:
  - Data Reuse Optimization = Disable
  - Performance/Power Setting = Traditional
Fujitsu

PRIMERGY BX620 S6, Intel Xeon X5670, 2.93 GHz

SPECfp_rate2006 = 248
SPECfp_rate_base2006 = 239

CPU2006 license: 19
Test sponsor: Fujitsu
Test date: Aug-2010
Tested by: Fujitsu
Hardware Availability: Aug-2010
Software Availability: Jan-2010

General Notes
For information about Fujitsu please visit: http://www.fujitsu.com
Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

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 -nofor_main
444.namd: -DSPEC_CPU_LP64 -nofor_main
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64 -nofor_main
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
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:
  -xSSE4.2  -ipo  -O3  -no-prec-div  -static

C++ benchmarks:
  -xSSE4.2  -ipo  -O3  -no-prec-div  -static
SPEC CFP2006 Result

Fujitsu

PRIMERGY BX620 S6, Intel Xeon X5670, 2.93 GHz

SPECfp_rate2006 = 248
SPECfp_rate_base2006 = 239

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

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.gamesp: -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.GemsFD1D: -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
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) -static(pass 2) -prof-use(pass 2)
    -fno-alias -opt-prefetch

470.lbm: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
    -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
    -opt-malloc-options=3 -ansi-alias -auto-ilp32

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2

C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
    -no-prec-div(pass 2) -static(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) -static(pass 2) -prof-use(pass 2)
    -opt-malloc-options=3

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
    -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
    -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
    -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
    -unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div -static

459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
    -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
    -unroll2 -Ob0

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
    -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
    -unroll4 -auto -inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

Continued on next page
## Fujitsu

**PRIMERGY BX620 S6, Intel Xeon X5670, 2.93 GHz**

<table>
<thead>
<tr>
<th>SPECfp_rate2006</th>
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<tbody>
<tr>
<td>SPECfp_rate_base2006</td>
<td>239</td>
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</table>

**CPU2006 license:** 19

**Test sponsor:** Fujitsu

**Test date:** Aug-2010

**Tested by:** Fujitsu

**Hardware Availability:** Aug-2010

**Software Availability:** Jan-2010

### Peak Optimization Flags (Continued)

- **435.gromacs:** -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
- no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
- opt-prefetch -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 [http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100708.html](http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100708.html)

You can also download the XML flags source by saving the following link:


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For questions about this result, please contact the tester.

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