



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

SPECfp®2006 = 39.2

PRIMERGY BX620 S6, Intel Xeon L5640, 2.27 GHz

SPECfp\_base2006 = 36.1

CPU2006 license: 19

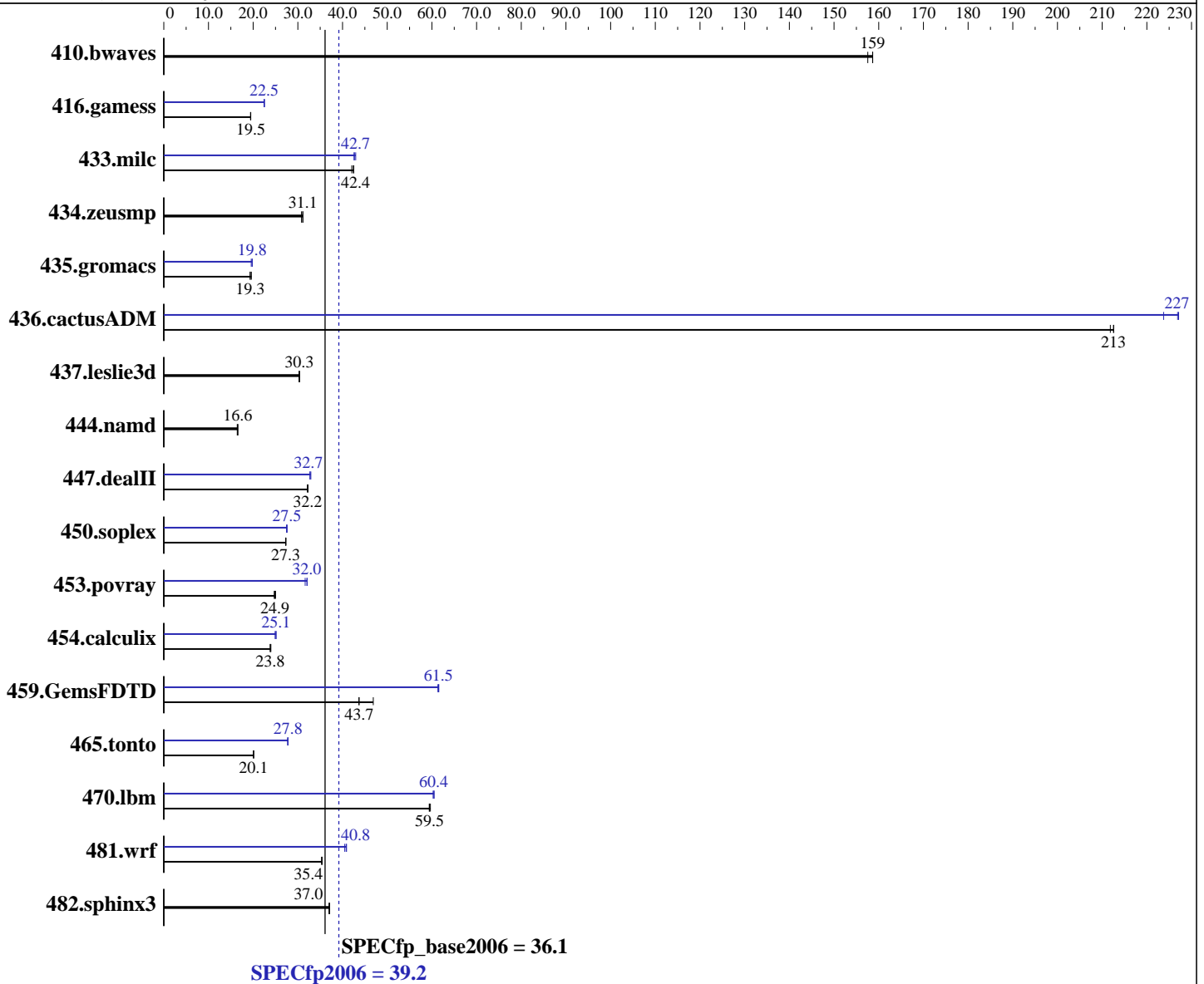
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Sep-2010

Hardware Availability: Jul-2010

Software Availability: Jan-2010



### Hardware

CPU Name: Intel Xeon L5640  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz  
 CPU MHz: 2267  
 FPU: Integrated  
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip  
 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

Continued on next page

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64), Kernel 2.6.27.19-5-default  
 Compiler: Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l\_cproc\_p\_11.1.064, l\_cprof\_p\_11.1.064  
 Auto Parallel: Yes  
 File System: ext3  
 System State: Run level 3 (multi-user)

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Fujitsu

SPECfp2006 = **39.2**

PRIMERGY BX620 S6, Intel Xeon L5640, 2.27 GHz

SPECfp\_base2006 = **36.1**

CPU2006 license: 19

Test date: Sep-2010

Test sponsor: Fujitsu

Hardware Availability: Jul-2010

Tested by: Fujitsu

Software Availability: Jan-2010

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  
Other Software: None

## Results Table

| Benchmark     | Base        |             |             |             |            |             | Peak       |             |             |             |             |             |
|---------------|-------------|-------------|-------------|-------------|------------|-------------|------------|-------------|-------------|-------------|-------------|-------------|
|               | Seconds     | Ratio       | Seconds     | Ratio       | Seconds    | Ratio       | Seconds    | Ratio       | Seconds     | Ratio       | Seconds     | Ratio       |
| 410.bwaves    | 86.3        | 158         | <b>85.7</b> | <b>159</b>  | 85.7       | 159         | 86.3       | 158         | <b>85.7</b> | <b>159</b>  | 85.7        | 159         |
| 416.gamess    | <b>1007</b> | <b>19.5</b> | 1009        | 19.4        | 1006       | 19.5        | <b>871</b> | <b>22.5</b> | 869         | 22.5        | 872         | 22.5        |
| 433.milc      | <b>216</b>  | <b>42.4</b> | 218         | 42.1        | 216        | 42.5        | 216        | 42.6        | 214         | 43.0        | <b>215</b>  | <b>42.7</b> |
| 434.zeusmp    | <b>293</b>  | <b>31.1</b> | 292         | 31.1        | 295        | 30.8        | <b>293</b> | <b>31.1</b> | 292         | 31.1        | 295         | 30.8        |
| 435.gromacs   | 364         | 19.6        | 369         | 19.3        | <b>369</b> | <b>19.3</b> | <b>361</b> | <b>19.8</b> | 361         | 19.8        | 365         | 19.6        |
| 436.cactusADM | <b>56.2</b> | <b>213</b>  | 56.2        | 213         | 56.4       | 212         | 52.6       | 227         | 53.4        | 224         | <b>52.7</b> | <b>227</b>  |
| 437.leslie3d  | 310         | 30.3        | <b>310</b>  | <b>30.3</b> | 309        | 30.4        | 310        | 30.3        | <b>310</b>  | <b>30.3</b> | 309         | 30.4        |
| 444.namd      | 484         | 16.6        | 488         | 16.4        | <b>484</b> | <b>16.6</b> | 484        | 16.6        | 488         | 16.4        | <b>484</b>  | <b>16.6</b> |
| 447.dealII    | <b>356</b>  | <b>32.2</b> | 354         | 32.3        | 356        | 32.2        | 350        | 32.7        | 348         | 32.9        | <b>350</b>  | <b>32.7</b> |
| 450.soplex    | 306         | 27.3        | 305         | 27.3        | <b>306</b> | <b>27.3</b> | 303        | 27.5        | <b>303</b>  | <b>27.5</b> | 302         | 27.6        |
| 453.povray    | 215         | 24.7        | 213         | 25.0        | <b>214</b> | <b>24.9</b> | <b>166</b> | <b>32.0</b> | 166         | 32.1        | 168         | 31.6        |
| 454.calculix  | 344         | 24.0        | <b>346</b>  | <b>23.8</b> | 346        | 23.8        | <b>329</b> | <b>25.1</b> | 331         | 24.9        | 328         | 25.1        |
| 459.GemsFDTD  | <b>243</b>  | <b>43.7</b> | 243         | 43.7        | 226        | 46.9        | 173        | 61.3        | <b>173</b>  | <b>61.5</b> | 172         | 61.6        |
| 465.tonto     | <b>490</b>  | <b>20.1</b> | 490         | 20.1        | 490        | 20.1        | 354        | 27.8        | 355         | 27.7        | <b>354</b>  | <b>27.8</b> |
| 470.lbm       | 231         | 59.4        | <b>231</b>  | <b>59.5</b> | 230        | 59.7        | 227        | 60.5        | <b>227</b>  | <b>60.4</b> | 228         | 60.3        |
| 481.wrf       | <b>316</b>  | <b>35.4</b> | 315         | 35.4        | 316        | 35.3        | <b>274</b> | <b>40.8</b> | 276         | 40.5        | 273         | 40.9        |
| 482.sphinx3   | 525         | 37.1        | 527         | 37.0        | <b>526</b> | <b>37.0</b> | 525        | 37.1        | 527         | 37.0        | <b>526</b>  | <b>37.0</b> |

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

## Platform Notes

BIOS configuration:  
Data Reuse Optimization = Disable  
Intel HT Technology = Disable  
Performance/Power Setting = Traditional



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECfp2006 = 39.2**

PRIMERGY BX620 S6, Intel Xeon L5640, 2.27 GHz

**SPECfp\_base2006 = 36.1**

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Sep-2010

Hardware Availability: Jul-2010

Software Availability: Jan-2010

## General Notes

OMP\_NUM\_THREADS set to number of cores

KMP\_AFFINITY set to granularity=fine,scatter

KMP\_STACKSIZE set to 200M

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  
 444.namd: -DSPEC\_CPU\_LP64  
 447.deallI: -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:

-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Continued on next page

Standard Performance Evaluation Corporation

[info@spec.org](mailto:info@spec.org)

<http://www.spec.org/>

Page 3



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = 39.2

PRIMERGY BX620 S6, Intel Xeon L5640, 2.27 GHz

SPECfp\_base2006 = 36.1

CPU2006 license: 19

Test date: Sep-2010

Test sponsor: Fujitsu

Hardware Availability: Jul-2010

Tested by: Fujitsu

Software Availability: Jan-2010

## Base Optimization Flags (Continued)

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Fortran benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:

-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

## 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: -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)  
-ansi-alias

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)  
-parallel -ansi-alias -auto-ilp32

482.sphinx3: basepeak = yes

C++ benchmarks:

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECfp2006 = 39.2**

PRIMERGY BX620 S6, Intel Xeon L5640, 2.27 GHz

**SPECfp\_base2006 = 36.1**

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Sep-2010

Hardware Availability: Jul-2010

Software Availability: Jan-2010

## Peak Optimization Flags (Continued)

444.namd: basepeak = yes

447.dealII: -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 -ansi-alias -scalar-rep- -auto-ilp32

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 -auto-ilp32

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: basepeak = yes

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: basepeak = yes

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 -opt-prefetch -parallel

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)  
-inline-calloc -opt-malloc-options=3 -auto -unroll4

### Benchmarks using both Fortran and C:

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: -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 -opt-prefetch -parallel -auto-ilp32

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: Same as 454.calculix



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = 39.2

PRIMERGY BX620 S6, Intel Xeon L5640, 2.27 GHz

SPECfp\_base2006 = 36.1

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Sep-2010

Hardware Availability: Jul-2010

Software Availability: Jan-2010

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>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100708.xml>

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.1.  
Report generated on Wed Jul 23 12:53:08 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 28 September 2010.