



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Fujitsu

SPECfp<sup>®</sup>2006 = **89.4**

CELSIUS C740, Intel Xeon E5-1620 v3, 3.5 GHz

SPECfp\_base2006 = **87.1**

CPU2006 license: 19

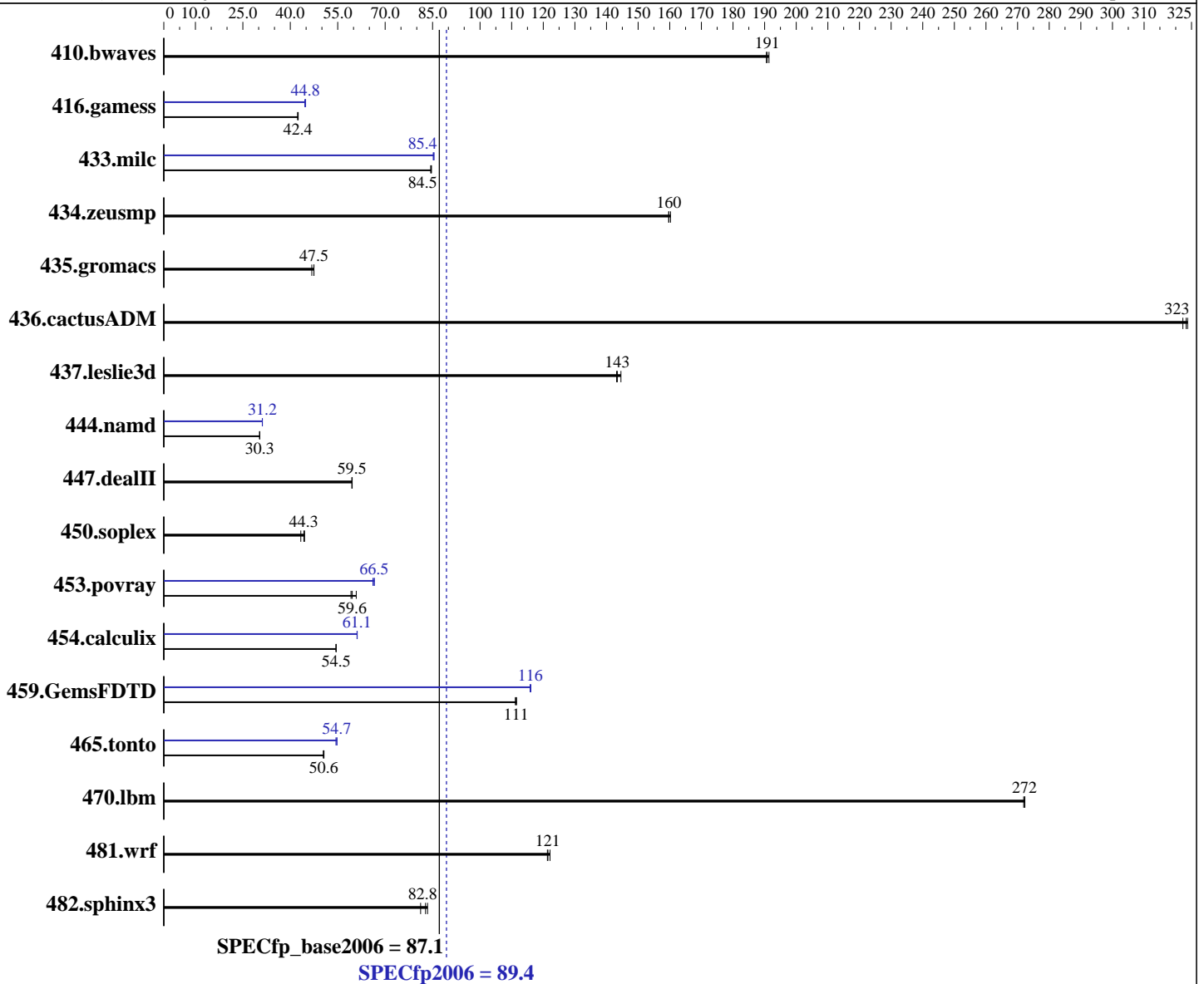
Test date: Apr-2015

Test sponsor: Fujitsu

Hardware Availability: May-2015

Tested by: Fujitsu

Software Availability: Sep-2014



### Hardware

CPU Name: Intel Xeon E5-1620 v3  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz  
 CPU MHz: 3500  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 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

Continued on next page

### Software

Operating System: Red Hat Enterprise Linux Server release 7.1 (Maipo)  
 Kernel 3.10.0-229.el7.x86\_64  
 Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux;  
 Fortran: Version 15.0.0.090 of Intel Fortran Studio XE for Linux  
 Auto Parallel: Yes  
 File System: xfs

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Fujitsu

SPECfp2006 = **89.4**

CELSIUS C740, Intel Xeon E5-1620 v3, 3.5 GHz

SPECfp\_base2006 = **87.1**

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Apr-2015

Hardware Availability: May-2015

Software Availability: Sep-2014

L3 Cache: 10 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 128 GB (8 x 16 GB 2Rx4 PC4-2133P-R)  
 Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM  
 Other Hardware: None

System State: Run level 3 (multi-user)  
 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	71.3	191	<u>71.2</u>	<u>191</u>	71.0	191	71.3	191	<u>71.2</u>	<u>191</u>	71.0	191
416.gamess	463	42.3	461	42.5	<u>462</u>	<u>42.4</u>	439	44.6	<u>437</u>	<u>44.8</u>	437	44.8
433.milc	109	84.4	108	84.7	<u>109</u>	<u>84.5</u>	107	85.5	<u>108</u>	<u>85.4</u>	108	85.2
434.zeusmp	<u>57.0</u>	<u>160</u>	56.8	160	57.0	160	<u>57.0</u>	<u>160</u>	56.8	160	57.0	160
435.gromacs	150	47.5	153	46.8	<u>150</u>	<u>47.5</u>	150	47.5	153	46.8	<u>150</u>	<u>47.5</u>
436.cactusADM	<u>37.0</u>	<u>323</u>	36.9	324	37.1	322	<u>37.0</u>	<u>323</u>	36.9	324	37.1	322
437.leslie3d	65.0	145	<u>65.5</u>	<u>143</u>	65.6	143	65.0	145	<u>65.5</u>	<u>143</u>	65.6	143
444.namd	265	30.3	<u>265</u>	<u>30.3</u>	265	30.3	257	31.2	<u>257</u>	<u>31.2</u>	257	31.1
447.dealII	192	59.5	192	59.6	<u>192</u>	<u>59.5</u>	192	59.5	192	59.6	<u>192</u>	<u>59.5</u>
450.soplex	187	44.5	<u>188</u>	<u>44.3</u>	193	43.3	187	44.5	<u>188</u>	<u>44.3</u>	193	43.3
453.povray	<u>89.3</u>	<u>59.6</u>	87.4	60.9	89.9	59.2	80.5	66.1	79.9	66.6	<u>80.0</u>	<u>66.5</u>
454.calculix	<u>151</u>	<u>54.5</u>	151	54.5	152	54.4	135	61.2	135	61.1	<u>135</u>	<u>61.1</u>
459.GemsFDTD	95.5	111	95.1	112	<u>95.2</u>	<u>111</u>	<u>91.6</u>	<u>116</u>	91.6	116	91.4	116
465.tonto	195	50.4	<u>195</u>	<u>50.6</u>	194	50.7	180	54.8	<u>180</u>	<u>54.7</u>	181	54.4
470.lbm	50.5	272	50.5	272	<u>50.5</u>	<u>272</u>	50.5	272	50.5	272	<u>50.5</u>	<u>272</u>
481.wrf	92.1	121	<u>92.0</u>	<u>121</u>	91.5	122	92.1	121	<u>92.0</u>	<u>121</u>	91.5	122
482.sphinx3	234	83.4	<u>235</u>	<u>82.8</u>	240	81.2	234	83.4	<u>235</u>	<u>82.8</u>	240	81.2

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## Platform Notes

BIOS configuration: default

## General Notes

Environment variables set by runspec before the start of the run:

KMP\_AFFINITY = "granularity=fine,compact,1,0"

LD\_LIBRARY\_PATH = "/home/SPECcpu2006/libs/32:/home/SPECcpu2006/libs/64:/home/SPECcpu2006/sh"

OMP\_NUM\_THREADS = "4"

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECfp2006 = 89.4**

CELSIUS C740, Intel Xeon E5-1620 v3, 3.5 GHz

**SPECfp\_base2006 = 87.1**

CPU2006 license: 19

Test date: Apr-2015

Test sponsor: Fujitsu

Hardware Availability: May-2015

Tested by: Fujitsu

Software Availability: Sep-2014

## General Notes (Continued)

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0

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

## 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:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch  
-ansi-alias

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECfp2006 = 89.4**

CELSIUS C740, Intel Xeon E5-1620 v3, 3.5 GHz

**SPECfp\_base2006 = 87.1**

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Apr-2015

Hardware Availability: May-2015

Software Availability: Sep-2014

## Base Optimization Flags (Continued)

C++ benchmarks:

`-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias`

Fortran benchmarks:

`-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch`

Benchmarks using both Fortran and C:

`-xCORE-AVX2 -ipo -O3 -no-prec-div -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: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-auto-ilp32 -ansi-alias`

470.lbm: `basepeak = yes`

482.sphinx3: `basepeak = yes`

C++ benchmarks:

444.namd: `-xCORE-AVX2(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`

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

**Fujitsu**

**SPECfp2006 = 89.4**

**CELSIUS C740, Intel Xeon E5-1620 v3, 3.5 GHz**

**SPECfp\_base2006 = 87.1**

**CPU2006 license:** 19

**Test sponsor:** Fujitsu

**Tested by:** Fujitsu

**Test date:** Apr-2015

**Hardware Availability:** May-2015

**Software Availability:** Sep-2014

## Peak Optimization Flags (Continued)

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4  
-ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -xCORE-AVX2(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-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xCORE-AVX2(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

465.tonto: -xCORE-AVX2(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

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

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-ic15.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.xml>



# SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Fujitsu

SPECfp2006 = 89.4

CELSIUS C740, Intel Xeon E5-1620 v3, 3.5 GHz

SPECfp\_base2006 = 87.1

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Apr-2015

Hardware Availability: May-2015

Software Availability: Sep-2014

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 v1.2.  
Report generated on Tue Jun 30 16:16:14 2015 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 30 June 2015.