



# SPEC® CFP2006 Result

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## Fujitsu

**SPECfp®2006 = 81.3**

PRIMERGY BX924 S3, Intel Xeon E5-2643, 3.30 GHz

**SPECfp\_base2006 = 77.7**

CPU2006 license: 19

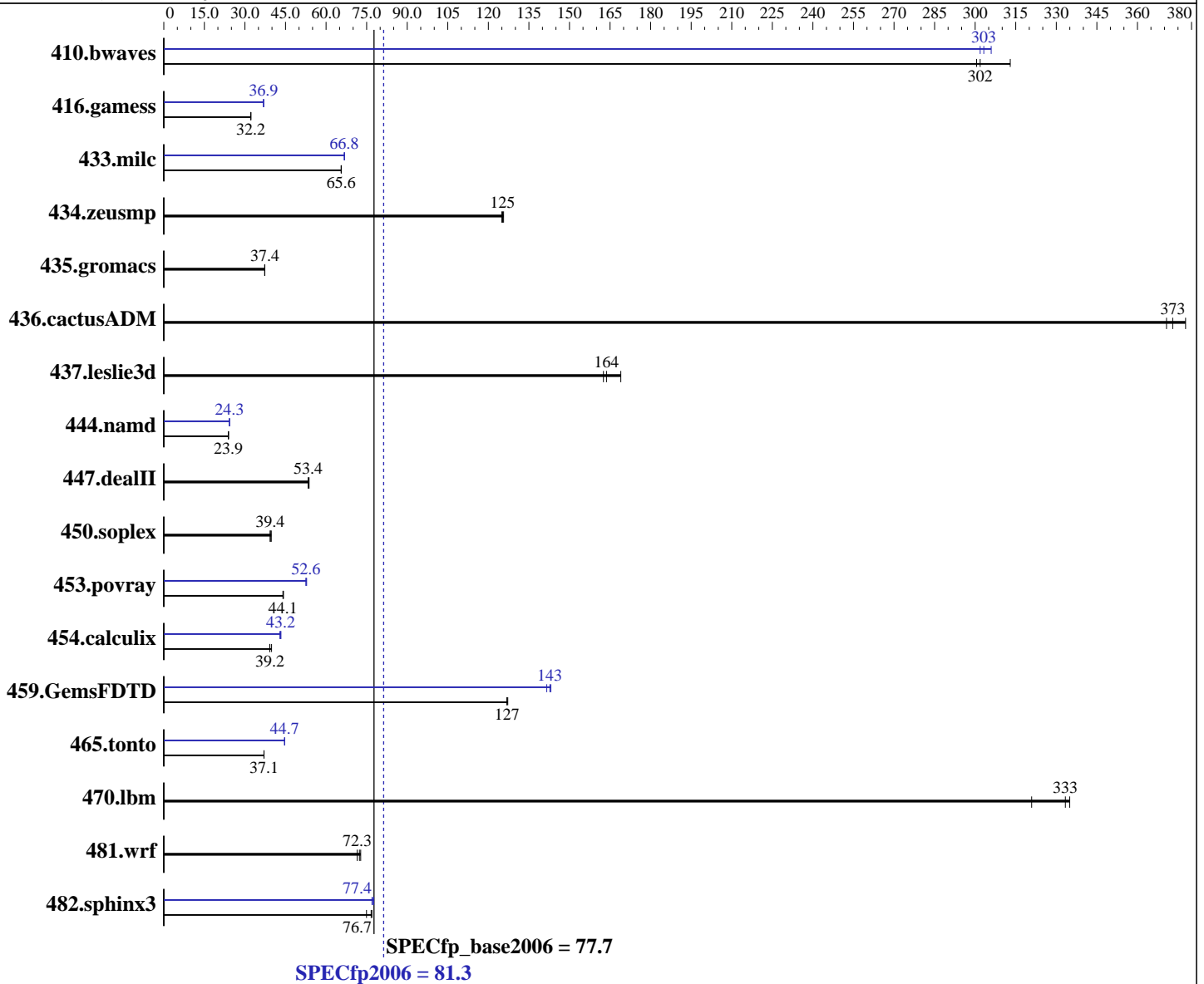
Test date: Jan-2012

Test sponsor: Fujitsu

Hardware Availability: Mar-2012

Tested by: Fujitsu

Software Availability: Dec-2011



### Hardware

CPU Name: Intel Xeon E5-2643  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz  
 CPU MHz: 3300  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 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

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### Software

Operating System: Red Hat Enterprise Linux Server release 6.2 (Santiago)  
 2.6.32-220.el6.x86\_64  
 Compiler: C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux;  
 Fortran: Version 12.1.0.225 of Intel Fortran Studio XE for Linux  
 Auto Parallel: Yes  
 File System: ext4

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L3 Cache: 10 MB I+D on chip per chip  
Other Cache: None  
Memory: 128 GB (16 x 8 GB 2Rx4 PC3L-12800R-11, ECC)  
Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM  
Other Hardware: PRIMERGY SX940 S1 for hw\_disk

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	<b>45.0</b>	<b>302</b>	45.2	301	43.4	313	44.4	306	<b>44.8</b>	<b>303</b>	45.0	302
416.gamess	609	32.2	<b>609</b>	<b>32.2</b>	608	32.2	531	36.9	531	36.9	<b>531</b>	<b>36.9</b>
433.milc	140	65.6	140	65.6	<b>140</b>	<b>65.6</b>	<b>137</b>	<b>66.8</b>	137	66.8	138	66.8
434.zeusmp	72.4	126	72.8	125	<b>72.6</b>	<b>125</b>	72.4	126	72.8	125	<b>72.6</b>	<b>125</b>
435.gromacs	<b>191</b>	<b>37.4</b>	191	37.4	192	37.3	<b>191</b>	<b>37.4</b>	191	37.4	192	37.3
436.cactusADM	32.2	371	31.6	378	<b>32.0</b>	<b>373</b>	32.2	371	31.6	378	<b>32.0</b>	<b>373</b>
437.leslie3d	55.6	169	<b>57.4</b>	<b>164</b>	57.8	163	55.6	169	<b>57.4</b>	<b>164</b>	57.8	163
444.namd	336	23.9	<b>336</b>	<b>23.9</b>	336	23.9	<b>330</b>	<b>24.3</b>	330	24.3	330	24.3
447.dealII	214	53.4	<b>214</b>	<b>53.4</b>	213	53.7	214	53.4	<b>214</b>	<b>53.4</b>	213	53.7
450.soplex	<b>212</b>	<b>39.4</b>	210	39.7	212	39.3	<b>212</b>	<b>39.4</b>	210	39.7	212	39.3
453.povray	120	44.2	<b>121</b>	<b>44.1</b>	121	44.1	<b>101</b>	<b>52.6</b>	101	52.6	101	52.8
454.calculix	207	39.8	<b>210</b>	<b>39.2</b>	211	39.2	192	42.9	191	43.3	<b>191</b>	<b>43.2</b>
459.GemsFDTD	83.6	127	83.4	127	<b>83.6</b>	<b>127</b>	74.9	142	74.1	143	<b>74.3</b>	<b>143</b>
465.tonto	266	37.1	266	37.0	<b>266</b>	<b>37.1</b>	220	44.6	220	44.7	<b>220</b>	<b>44.7</b>
470.lbm	<b>41.2</b>	<b>333</b>	42.8	321	41.0	335	<b>41.2</b>	<b>333</b>	42.8	321	41.0	335
481.wrf	156	71.5	<b>154</b>	<b>72.3</b>	153	72.8	156	71.5	<b>154</b>	<b>72.3</b>	153	72.8
482.sphinx3	253	77.0	<b>254</b>	<b>76.7</b>	260	74.9	251	77.6	253	77.0	<b>252</b>	<b>77.4</b>

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:  
Intel HT Technology = Disable  
Frequency Floor Override = Enable

## General Notes

Environment variables set by runspec before the start of the run:  
KMP\_AFFINITY = "granularity=fine,scatter"  
LD\_LIBRARY\_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64"

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## General Notes (Continued)

OMP\_NUM\_THREADS = "8"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled

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:

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

470.lbm: `basepeak = yes`

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

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## Peak Optimization Flags (Continued)

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

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

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

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

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

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-ic12.1-official-linux64.20111122.html>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120313.00.html>



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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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