



# SPEC® CFP2006 Result

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## Fujitsu

SPECfp®2006 = 47.2

PRIMERGY TX120 S3, Intel Core i3-2100, 3.10 GHz

SPECfp\_base2006 = 45.5

CPU2006 license: 19

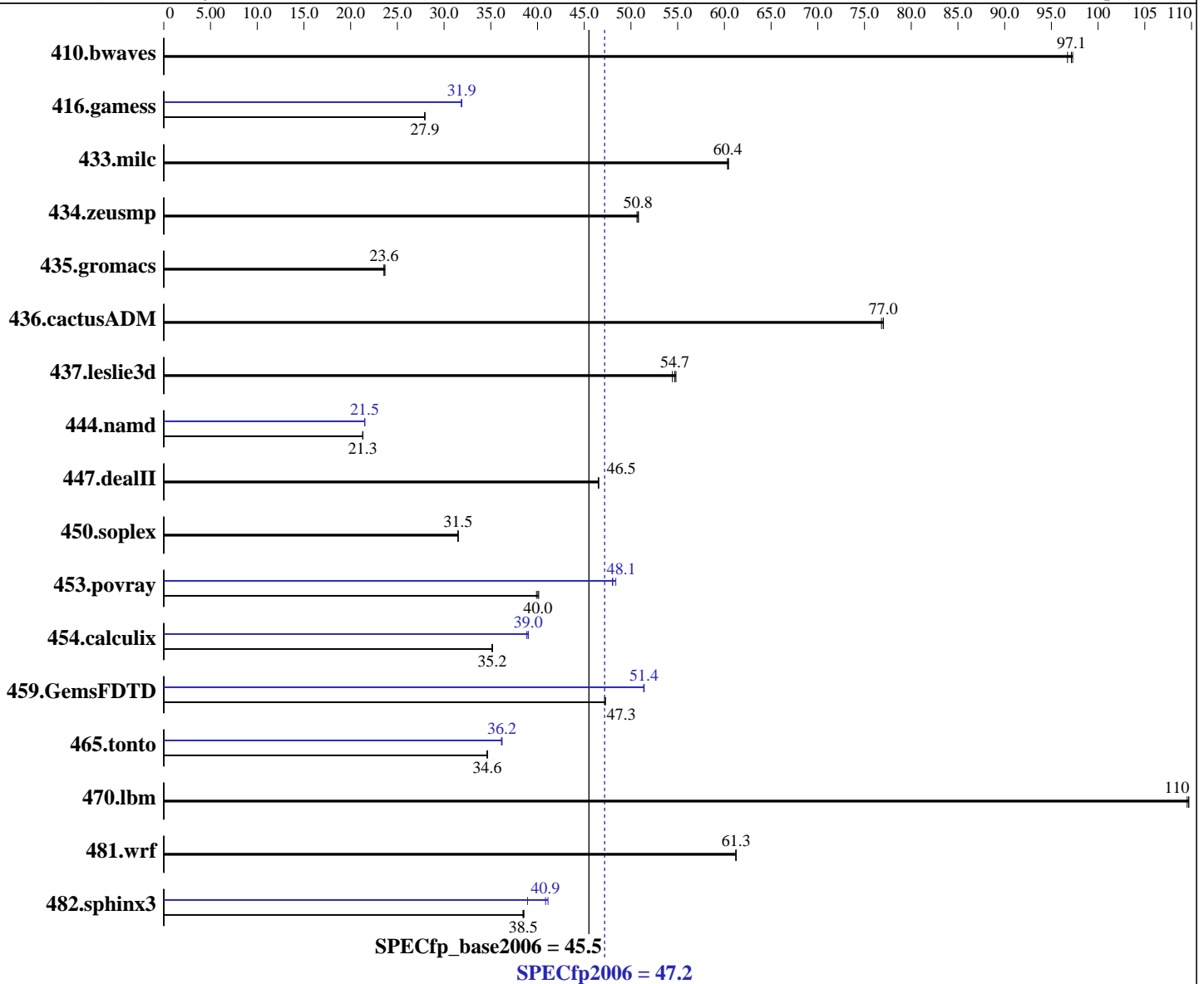
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: May-2011

Hardware Availability: Jun-2011

Software Availability: Apr-2011



### Hardware

CPU Name: Intel Core i3-2100  
 CPU Characteristics:  
 CPU MHz: 3100  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 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

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### 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 Update 3  
 Auto Parallel: Yes  
 File System: ext3  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit

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L3 Cache: 3 MB I+D on chip per chip  
Other Cache: None  
Memory: 8 GB (2 x 4 GB 2Rx8 PC3-10600E-9, ECC)  
Disk Subsystem: 1 x SATA, 300 GB, 7200 RPM  
Other Hardware: None

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	140	96.7	<b>140</b>	<b>97.1</b>	140	97.3	140	96.7	<b>140</b>	<b>97.1</b>	140	97.3
416.gamess	701	27.9	701	27.9	<b>701</b>	<b>27.9</b>	614	31.9	615	31.8	<b>614</b>	<b>31.9</b>
433.milc	152	60.3	<b>152</b>	<b>60.4</b>	152	60.4	152	60.3	<b>152</b>	<b>60.4</b>	152	60.4
434.zeusmp	180	50.6	<b>179</b>	<b>50.8</b>	179	50.8	180	50.6	<b>179</b>	<b>50.8</b>	179	50.8
435.gromacs	302	23.7	<b>303</b>	<b>23.6</b>	303	23.6	302	23.7	<b>303</b>	<b>23.6</b>	303	23.6
436.cactusADM	156	76.8	155	77.0	<b>155</b>	<b>77.0</b>	156	76.8	155	77.0	<b>155</b>	<b>77.0</b>
437.leslie3d	173	54.4	171	54.8	<b>172</b>	<b>54.7</b>	173	54.4	171	54.8	<b>172</b>	<b>54.7</b>
444.namd	376	21.3	<b>376</b>	<b>21.3</b>	377	21.3	<b>373</b>	<b>21.5</b>	373	21.5	373	21.5
447.dealII	246	46.5	<b>246</b>	<b>46.5</b>	246	46.5	246	46.5	<b>246</b>	<b>46.5</b>	246	46.5
450.soplex	<b>265</b>	<b>31.5</b>	265	31.5	265	31.5	<b>265</b>	<b>31.5</b>	265	31.5	265	31.5
453.povray	133	39.9	<b>133</b>	<b>40.0</b>	133	40.1	110	48.4	<b>111</b>	<b>48.1</b>	111	48.0
454.calculix	235	35.1	<b>235</b>	<b>35.2</b>	234	35.2	211	39.0	<b>212</b>	<b>39.0</b>	212	38.8
459.GemsFDTD	<b>224</b>	<b>47.3</b>	225	47.2	224	47.3	<b>206</b>	<b>51.4</b>	206	51.4	207	51.4
465.tonto	284	34.7	<b>284</b>	<b>34.6</b>	285	34.6	272	36.2	272	36.1	<b>272</b>	<b>36.2</b>
470.lbm	<b>125</b>	<b>110</b>	125	110	125	110	<b>125</b>	<b>110</b>	125	110	125	110
481.wrf	<b>182</b>	<b>61.3</b>	183	61.2	182	61.3	<b>182</b>	<b>61.3</b>	183	61.2	182	61.3
482.sphinx3	<b>506</b>	<b>38.5</b>	507	38.4	506	38.6	474	41.1	<b>477</b>	<b>40.9</b>	501	38.9

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
'nodetv /mnt/hugepages hugetlbfs defaults 0 0' added to /etc/fstab
echo 900 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```

## Platform Notes

BIOS configuration:  
Intel HT Technology = Disable



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## General Notes

OMP\_NUM\_THREADS set to number of cores  
For information about Fujitsu please visit: <http://www.fujitsu.com>  
Binaries were compiled on RHEL5.5  
This result was measured on the PRIMERGY TX140 S1. The PRIMERGY TX120 S3 and the PRIMERGY TX140 S1 are electronically equivalent.

## 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:  
-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: basepeak = yes

470.lbm: basepeak = yes

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

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

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## Peak Optimization Flags (Continued)

447.dealIII: 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  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

Fortran benchmarks:

410.bwaves: basepeak = yes

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  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

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  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

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  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

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-ic12.0-linux64-revB.20110316.html>

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

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

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

Tested with SPEC CPU2006 v1.1.  
Report generated on Wed Jul 23 18:09:05 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 7 June 2011.