



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu

SPECfp<sup>®</sup>2006 = **59.5**

PRIMERGY TX120 S3, Intel Xeon E3-1240, 3.30 GHz

SPECfp\_base2006 = **56.8**

CPU2006 license: 19

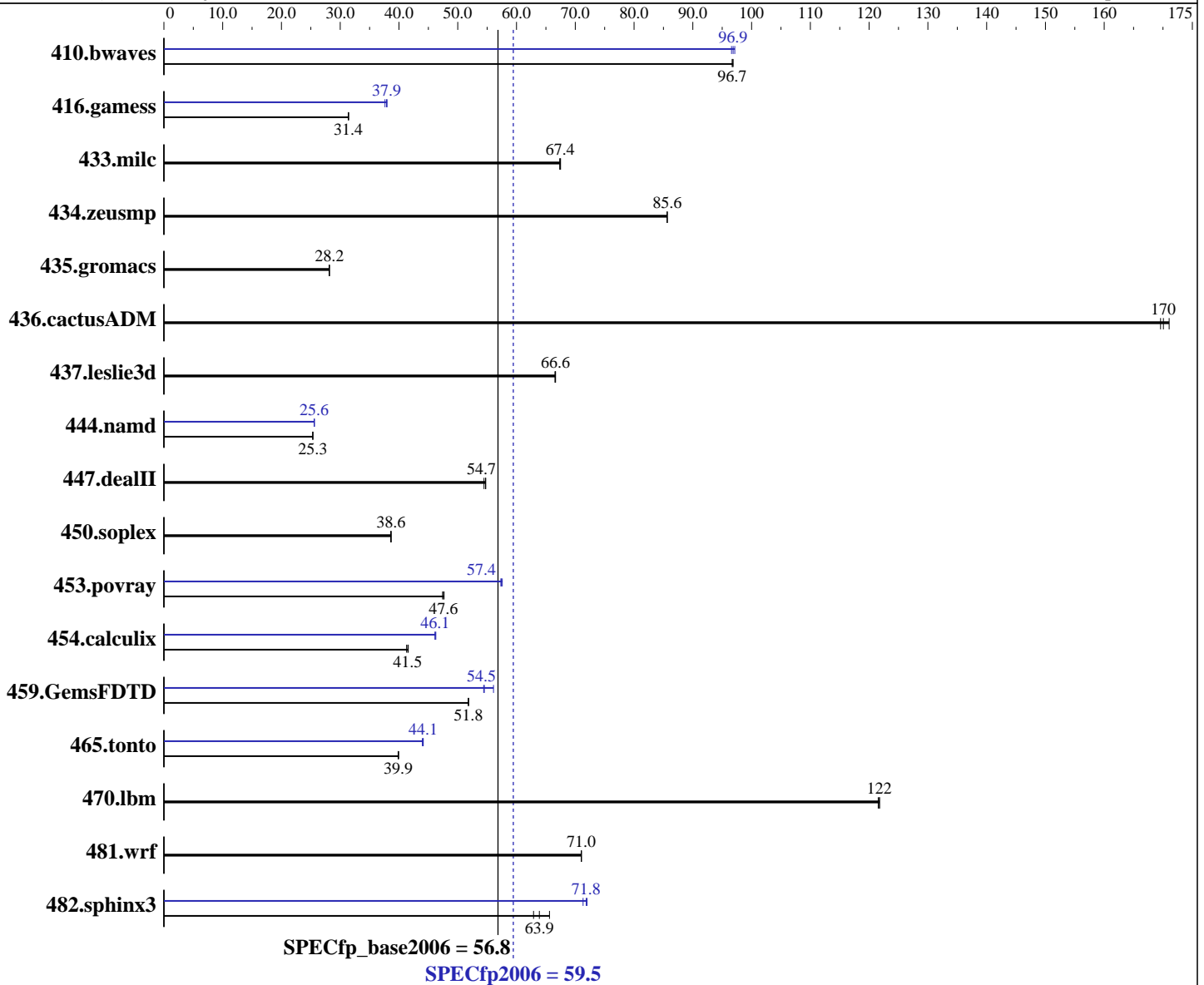
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Apr-2011

Hardware Availability: Jun-2011

Software Availability: Apr-2011



### Hardware

CPU Name: Intel Xeon E3-1240  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz  
 CPU MHz: 3300  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 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: 8 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: --

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	141	96.7	140	96.9	<b>141</b>	<b>96.7</b>	141	96.6	<b>140</b>	<b>96.9</b>	140	97.1
416.gamess	<b>624</b>	<b>31.4</b>	623	31.4	624	31.4	520	37.6	<b>517</b>	<b>37.9</b>	516	38.0
433.milc	136	67.5	136	67.4	<b>136</b>	<b>67.4</b>	136	67.5	136	67.4	<b>136</b>	<b>67.4</b>
434.zeusmp	<b>106</b>	<b>85.6</b>	106	85.6	106	85.6	<b>106</b>	<b>85.6</b>	106	85.6	106	85.6
435.gromacs	254	28.2	254	28.1	<b>254</b>	<b>28.2</b>	254	28.2	254	28.1	<b>254</b>	<b>28.2</b>
436.cactusADM	<b>70.3</b>	<b>170</b>	70.5	170	69.9	171	<b>70.3</b>	<b>170</b>	70.5	170	69.9	171
437.leslie3d	141	66.5	<b>141</b>	<b>66.6</b>	141	66.6	141	66.5	<b>141</b>	<b>66.6</b>	141	66.6
444.namd	<b>316</b>	<b>25.3</b>	316	25.3	317	25.3	313	25.6	313	25.6	<b>313</b>	<b>25.6</b>
447.dealII	210	54.5	209	54.8	<b>209</b>	<b>54.7</b>	210	54.5	209	54.8	<b>209</b>	<b>54.7</b>
450.soplex	<b>216</b>	<b>38.6</b>	216	38.6	216	38.7	<b>216</b>	<b>38.6</b>	216	38.6	216	38.7
453.povray	112	47.4	<b>112</b>	<b>47.6</b>	112	47.7	<b>92.7</b>	<b>57.4</b>	92.8	57.3	92.4	57.6
454.calculix	200	41.3	<b>199</b>	<b>41.5</b>	198	41.6	178	46.3	<b>179</b>	<b>46.1</b>	179	46.1
459.GemsFDTD	205	51.8	205	51.8	<b>205</b>	<b>51.8</b>	195	54.4	<b>195</b>	<b>54.5</b>	189	56.1
465.tonto	246	40.0	247	39.9	<b>247</b>	<b>39.9</b>	223	44.1	<b>223</b>	<b>44.1</b>	224	44.0
470.lbm	113	122	<b>113</b>	<b>122</b>	113	122	113	122	<b>113</b>	<b>122</b>	113	122
481.wrf	157	71.0	157	71.0	<b>157</b>	<b>71.0</b>	157	71.0	157	71.0	<b>157</b>	<b>71.0</b>
482.sphinx3	<b>305</b>	<b>63.9</b>	297	65.6	310	62.9	271	72.0	<b>271</b>	<b>71.8</b>	273	71.3

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/libhugepage.so
```

## Platform Notes

BIOS configuration:  
Intel HT Technology = Disable



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## General Notes

OMP\_NUM\_THREADS set to number of cores  
This result was measured on the PRIMERGY TX120 S3. The PRIMERGY TX120 S3 and the PRIMERGY TX140 S1 are electronically equivalent.  
For information about Fujitsu please visit: <http://www.fujitsu.com>  
Binaries were compiled on RHEL5.5 with binutils-2.17.50.0.6-14.el5

## 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.dealll: 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: -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  
-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-Intel-Linux64.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.20110316.xml>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Intel-Linux64.xml>



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

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