



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu

PRIMERGY TX140 S1p, Intel Xeon E3-1220 v2, 3.10 GHz

SPECfp<sup>®</sup>2006 = **66.7**

SPECfp\_base2006 = **64.8**

CPU2006 license: 19

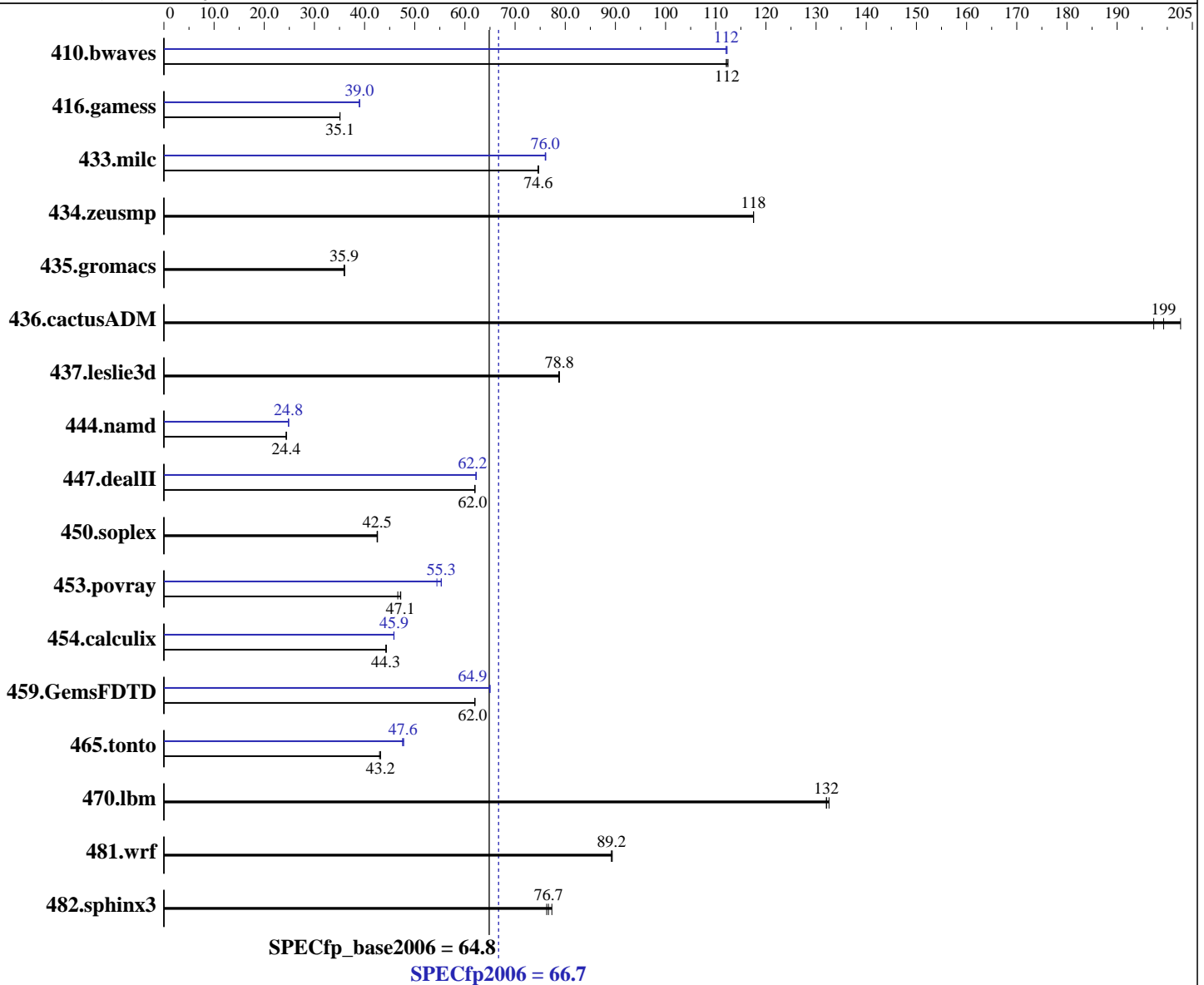
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Apr-2012

Hardware Availability: May-2012

Software Availability: Feb-2012



### Hardware

CPU Name: Intel Xeon E3-1220 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.5 GHz  
 CPU MHz: 3100  
 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: Red Hat Enterprise Linux Server release 6.2 (Santiago)  
 2.6.32-220.el6.x86\_64  
 Compiler: C/C++: Version 12.1.0.293 of Intel C++ Studio XE for Linux;  
 Fortran: Version 12.1.0.293 of Intel Fortran Studio XE for Linux  
 Auto Parallel: Yes  
 File System: ext4

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L3 Cache: 8 MB I+D on chip per chip  
Other Cache: None  
Memory: 16 GB (2 x 8 GB 2Rx8 PC3-12800E-11, ECC)  
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	121	112	<b><u>121</u></b>	<b><u>112</u></b>	121	112	<b><u>121</u></b>	<b><u>112</u></b>	121	112	121	112
416.gamess	558	35.1	558	35.1	<b><u>558</u></b>	<b><u>35.1</u></b>	<b><u>502</u></b>	<b><u>39.0</u></b>	502	39.0	502	39.0
433.milc	<b><u>123</u></b>	<b><u>74.6</u></b>	123	74.6	123	74.7	121	76.1	121	76.0	<b><u>121</u></b>	<b><u>76.0</u></b>
434.zeusmp	77.4	118	<b><u>77.4</u></b>	<b><u>118</u></b>	77.4	118	77.4	118	<b><u>77.4</u></b>	<b><u>118</u></b>	77.4	118
435.gromacs	198	36.0	<b><u>199</u></b>	<b><u>35.9</u></b>	199	35.9	198	36.0	<b><u>199</u></b>	<b><u>35.9</u></b>	199	35.9
436.cactusADM	59.0	203	60.6	197	<b><u>60.0</u></b>	<b><u>199</u></b>	59.0	203	60.6	197	<b><u>60.0</u></b>	<b><u>199</u></b>
437.leslie3d	119	78.8	<b><u>119</u></b>	<b><u>78.8</u></b>	119	78.7	119	78.8	<b><u>119</u></b>	<b><u>78.8</u></b>	119	78.7
444.namd	<b><u>329</u></b>	<b><u>24.4</u></b>	329	24.4	329	24.4	323	24.8	323	24.9	<b><u>323</u></b>	<b><u>24.8</u></b>
447.dealII	185	61.9	184	62.0	<b><u>185</u></b>	<b><u>62.0</u></b>	184	62.2	184	62.2	<b><u>184</u></b>	<b><u>62.2</u></b>
450.soplex	196	42.5	196	42.6	<b><u>196</u></b>	<b><u>42.5</u></b>	196	42.5	196	42.6	<b><u>196</u></b>	<b><u>42.5</u></b>
453.povray	113	47.2	<b><u>113</u></b>	<b><u>47.1</u></b>	114	46.6	97.8	54.4	<b><u>96.3</u></b>	<b><u>55.3</u></b>	96.2	55.3
454.calculix	186	44.3	186	44.3	<b><u>186</u></b>	<b><u>44.3</u></b>	180	45.8	180	45.9	<b><u>180</u></b>	<b><u>45.9</u></b>
459.GemsFDTD	<b><u>171</u></b>	<b><u>62.0</u></b>	171	62.0	171	62.0	<b><u>163</u></b>	<b><u>64.9</u></b>	163	64.9	163	65.0
465.tonto	229	43.0	228	43.2	<b><u>228</u></b>	<b><u>43.2</u></b>	<b><u>207</u></b>	<b><u>47.6</u></b>	207	47.6	206	47.8
470.lbm	104	132	<b><u>104</u></b>	<b><u>132</u></b>	104	133	104	132	<b><u>104</u></b>	<b><u>132</u></b>	104	133
481.wrf	125	89.2	125	89.4	<b><u>125</u></b>	<b><u>89.2</u></b>	125	89.2	125	89.4	<b><u>125</u></b>	<b><u>89.2</u></b>
482.sphinx3	255	76.3	252	77.3	<b><u>254</u></b>	<b><u>76.7</u></b>	255	76.3	252	77.3	<b><u>254</u></b>	<b><u>76.7</u></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

## 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"  
OMP\_NUM\_THREADS = "4"

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### General Notes (Continued)

Binaries compiled on a system with 1x E3-1270V2 CPU + 32 GB memory using RHEL6.2  
Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled  
This result was measured on the PRIMERGY TX140 S1p. The PRIMERGY tx140 S1p and the PRIMERGY TX120 S3p are electronically equivalent.  
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.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



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## Base Optimization Flags

C benchmarks:

-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch  
-ansi-alias

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: basepeak = yes

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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.dealIII: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch  
-ansi-alias

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: -xSSE4.2(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.20120320.html>



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

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<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.xml>

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