



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu

PRIMERGY TX140 S1p, Intel Xeon E3-1280 v2, 3.60 GHz

SPECfp<sup>®</sup>2006 = **72.4**

SPECfp\_base2006 = **70.3**

CPU2006 license: 19

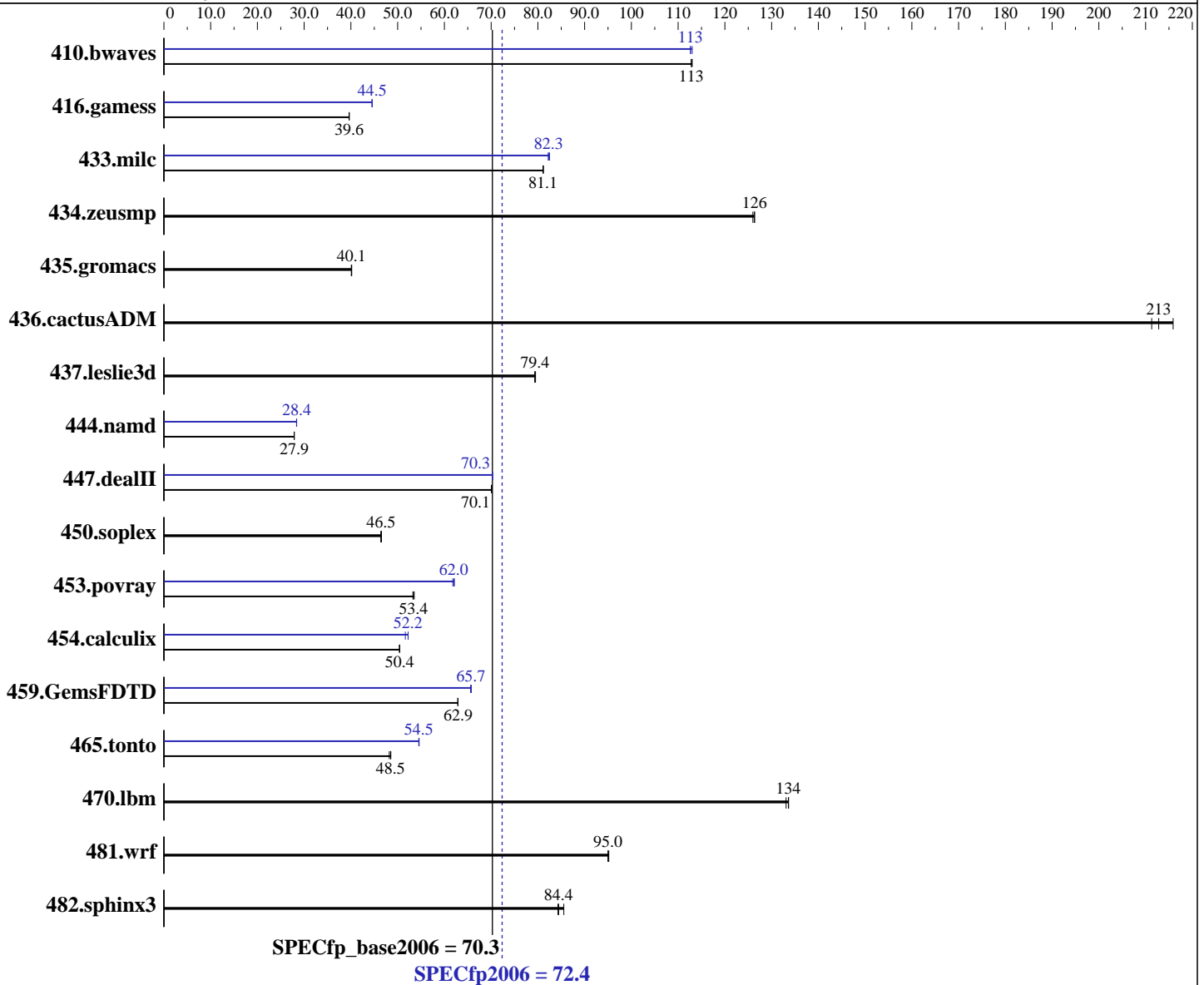
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Apr-2012

Hardware Availability: May-2012

Software Availability: Feb-2012



### Hardware

CPU Name: Intel Xeon E3-1280 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 4.0 GHz  
 CPU MHz: 3600  
 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	120	113	<b>120</b>	<b>113</b>	120	113	<b>121</b>	<b>113</b>	121	113	120	113
416.gamess	<b>494</b>	<b>39.6</b>	494	39.6	494	39.6	439	44.6	<b>440</b>	<b>44.5</b>	440	44.5
433.milc	<b>113</b>	<b>81.1</b>	113	81.1	113	81.2	111	82.5	112	82.2	<b>112</b>	<b>82.3</b>
434.zeusmp	72.2	126	<b>72.0</b>	<b>126</b>	72.0	126	72.2	126	<b>72.0</b>	<b>126</b>	72.0	126
435.gromacs	178	40.2	<b>178</b>	<b>40.1</b>	178	40.1	178	40.2	<b>178</b>	<b>40.1</b>	178	40.1
436.cactusADM	56.6	211	55.4	216	<b>56.2</b>	<b>213</b>	56.6	211	55.4	216	<b>56.2</b>	<b>213</b>
437.leslie3d	<b>118</b>	<b>79.4</b>	118	79.5	118	79.4	<b>118</b>	<b>79.4</b>	118	79.5	118	79.4
444.namd	288	27.9	<b>288</b>	<b>27.9</b>	288	27.9	283	28.4	<b>282</b>	<b>28.4</b>	282	28.4
447.dealII	<b>163</b>	<b>70.1</b>	163	70.1	163	70.1	163	70.2	163	70.3	<b>163</b>	<b>70.3</b>
450.soplex	180	46.4	<b>180</b>	<b>46.5</b>	179	46.5	180	46.4	<b>180</b>	<b>46.5</b>	179	46.5
453.povray	99.9	53.3	<b>99.6</b>	<b>53.4</b>	99.4	53.5	85.6	62.1	86.1	61.8	<b>85.8</b>	<b>62.0</b>
454.calculix	164	50.4	164	50.4	<b>164</b>	<b>50.4</b>	160	51.6	158	52.2	<b>158</b>	<b>52.2</b>
459.GemsFDTD	169	62.9	<b>169</b>	<b>62.9</b>	169	62.8	<b>162</b>	<b>65.7</b>	161	65.8	162	65.6
465.tonto	204	48.2	203	48.5	<b>203</b>	<b>48.5</b>	180	54.6	<b>180</b>	<b>54.5</b>	180	54.5
470.lbm	103	133	<b>103</b>	<b>134</b>	103	134	103	133	<b>103</b>	<b>134</b>	103	134
481.wrf	117	95.2	118	95.0	<b>118</b>	<b>95.0</b>	117	95.2	118	95.0	<b>118</b>	<b>95.0</b>
482.sphinx3	228	85.6	231	84.3	<b>231</b>	<b>84.4</b>	228	85.6	231	84.3	<b>231</b>	<b>84.4</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

## 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.lelie3d: -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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<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.xml>

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

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