



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu

PRIMERGY TX120 S3p, Intel Xeon E3-1240 v2, 3.40 GHz

SPECfp<sup>®</sup>2006 = 70.3

SPECfp\_base2006 = 68.4

CPU2006 license: 19

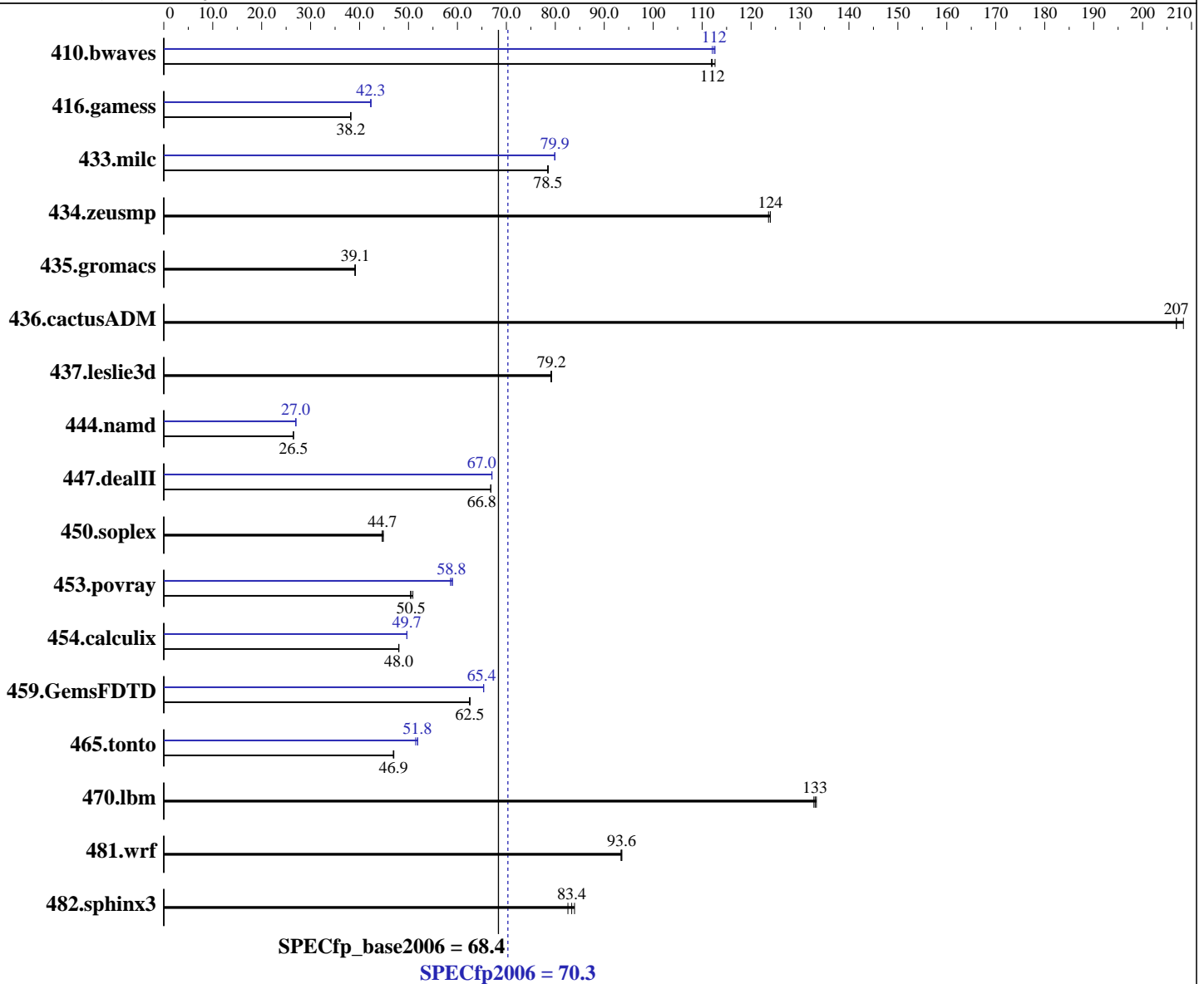
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: May-2012

Hardware Availability: May-2012

Software Availability: Feb-2012



### Hardware

CPU Name: Intel Xeon E3-1240 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.8 GHz  
 CPU MHz: 3400  
 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	121	113	<u>121</u>	<u>112</u>	<u>121</u>	<u>112</u>	121	112	121	113
416.gamess	513	38.2	<u>512</u>	<u>38.2</u>	512	38.2	<u>463</u>	<u>42.3</u>	462	42.4	463	42.3
433.milc	117	78.6	<u>117</u>	<u>78.5</u>	117	78.4	115	79.9	115	79.9	<u>115</u>	<u>79.9</u>
434.zeusmp	73.6	124	73.4	124	<u>73.4</u>	<u>124</u>	73.6	124	73.4	124	<u>73.4</u>	<u>124</u>
435.gromacs	<u>183</u>	<u>39.1</u>	182	39.2	183	39.0	<u>183</u>	<u>39.1</u>	182	39.2	183	39.0
436.cactusADM	57.4	208	<u>57.8</u>	<u>207</u>	57.8	207	57.4	208	<u>57.8</u>	<u>207</u>	57.8	207
437.leslie3d	119	79.2	<u>119</u>	<u>79.2</u>	119	79.1	119	79.2	<u>119</u>	<u>79.2</u>	119	79.1
444.namd	303	26.5	303	26.5	<u>303</u>	<u>26.5</u>	297	27.0	297	27.0	<u>297</u>	<u>27.0</u>
447.dealII	171	66.9	171	66.8	<u>171</u>	<u>66.8</u>	<u>171</u>	<u>67.0</u>	171	67.0	171	67.0
450.soplex	186	44.9	<u>187</u>	<u>44.7</u>	187	44.6	186	44.9	<u>187</u>	<u>44.7</u>	187	44.6
453.povray	106	50.4	<u>105</u>	<u>50.5</u>	105	50.9	90.8	58.6	<u>90.5</u>	<u>58.8</u>	90.2	59.0
454.calculix	172	48.0	172	48.0	<u>172</u>	<u>48.0</u>	<u>166</u>	<u>49.7</u>	166	49.7	166	49.7
459.GemsFDTD	<u>170</u>	<u>62.5</u>	170	62.5	170	62.5	<u>162</u>	<u>65.4</u>	162	65.4	162	65.4
465.tonto	<u>210</u>	<u>46.9</u>	209	47.0	210	46.9	<u>190</u>	<u>51.8</u>	190	51.9	191	51.5
470.lbm	103	133	<u>103</u>	<u>133</u>	103	133	103	133	<u>103</u>	<u>133</u>	103	133
481.wrf	119	93.6	120	93.4	<u>119</u>	<u>93.6</u>	119	93.6	120	93.4	<u>119</u>	<u>93.6</u>
482.sphinx3	232	83.9	236	82.6	<u>234</u>	<u>83.4</u>	232	83.9	236	82.6	<u>234</u>	<u>83.4</u>

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

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