



# SPEC® CFP2006 Result

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## Fujitsu

PRIMERGY TX1330 M2, Intel Xeon E3-1240 v5, 3.50 GHz

SPECfp®2006 = 98.5

SPECfp\_base2006 = 96.4

CPU2006 license: 19

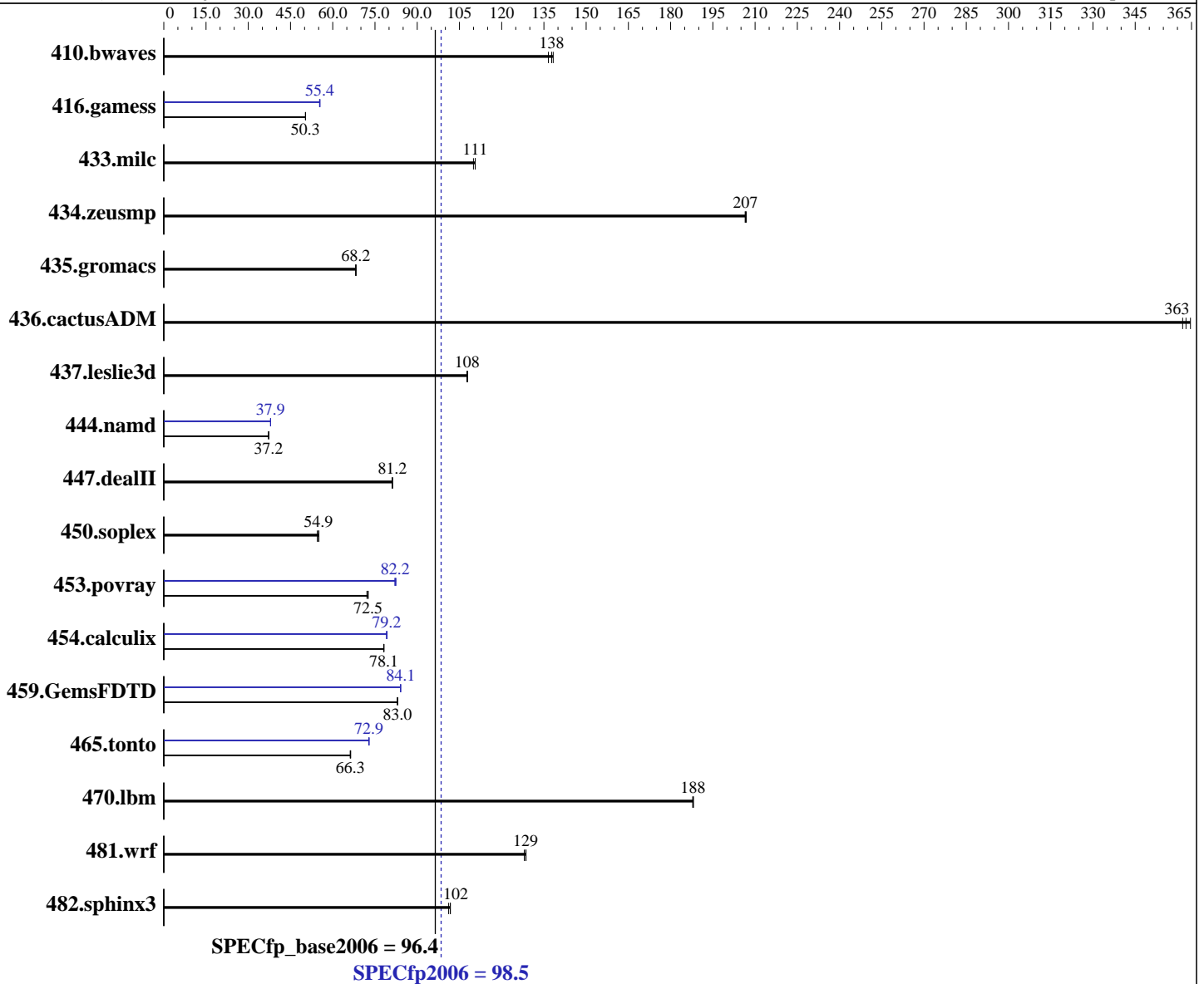
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Nov-2015

Hardware Availability: Feb-2016

Software Availability: Sep-2015



### Hardware

CPU Name: Intel Xeon E3-1240 v5  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.90 GHz  
 CPU MHz: 3500  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core  
 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

Continued on next page

### Software

Operating System: SUSE Linux Enterprise Server 12 (x86\_64)  
 Kernel 3.12.48-52.27-default  
 Compiler: C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux;  
 Fortran: Version 16.0.0.101 of Intel Fortran Studio XE for Linux  
 Auto Parallel: Yes  
 File System: ext4  
 System State: Run level 3 (multi-user)

Continued on next page



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L3 Cache: 8 MB I+D on chip per chip  
Other Cache: None  
Memory: 64 GB (4 x 16 GB 2Rx8 PC4-2133P-E)  
Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM  
Other Hardware: None

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	99.5	137	<b><u>98.7</u></b>	<b><u>138</u></b>	98.3	138	99.5	137	<b><u>98.7</u></b>	<b><u>138</u></b>	98.3	138
416.gamess	389	50.4	<b><u>389</u></b>	<b><u>50.3</u></b>	389	50.3	354	55.3	<b><u>353</u></b>	<b><u>55.4</u></b>	353	55.5
433.milc	83.5	110	<b><u>83.0</u></b>	<b><u>111</u></b>	83.0	111	83.5	110	<b><u>83.0</u></b>	<b><u>111</u></b>	83.0	111
434.zeusmp	44.1	206	<b><u>44.0</u></b>	<b><u>207</u></b>	44.0	207	44.1	206	<b><u>44.0</u></b>	<b><u>207</u></b>	44.0	207
435.gromacs	<b><u>105</u></b>	<b><u>68.2</u></b>	105	68.3	105	68.1	<b><u>105</u></b>	<b><u>68.2</u></b>	105	68.3	105	68.1
436.cactusADM	<b><u>32.9</u></b>	<b><u>363</u></b>	33.0	362	32.8	365	<b><u>32.9</u></b>	<b><u>363</u></b>	33.0	362	32.8	365
437.leslie3d	87.3	108	87.1	108	<b><u>87.2</u></b>	<b><u>108</u></b>	87.3	108	87.1	108	<b><u>87.2</u></b>	<b><u>108</u></b>
444.namd	<b><u>215</u></b>	<b><u>37.2</u></b>	215	37.3	215	37.2	211	37.9	<b><u>211</u></b>	<b><u>37.9</u></b>	212	37.9
447.dealII	<b><u>141</u></b>	<b><u>81.2</u></b>	141	81.1	141	81.2	<b><u>141</u></b>	<b><u>81.2</u></b>	141	81.1	141	81.2
450.soplex	<b><u>152</u></b>	<b><u>54.9</u></b>	151	55.1	153	54.5	<b><u>152</u></b>	<b><u>54.9</u></b>	151	55.1	153	54.5
453.povray	73.3	72.6	<b><u>73.3</u></b>	<b><u>72.5</u></b>	73.8	72.1	64.8	82.1	64.5	82.5	<b><u>64.7</u></b>	<b><u>82.2</u></b>
454.calculix	106	78.1	<b><u>106</u></b>	<b><u>78.1</u></b>	106	78.2	104	79.3	104	79.1	<b><u>104</u></b>	<b><u>79.2</u></b>
459.GemsFDTD	128	83.0	128	83.0	<b><u>128</u></b>	<b><u>83.0</u></b>	<b><u>126</u></b>	<b><u>84.1</u></b>	126	84.1	126	84.1
465.tonto	148	66.4	149	66.2	<b><u>148</u></b>	<b><u>66.3</u></b>	135	72.9	135	72.8	<b><u>135</u></b>	<b><u>72.9</u></b>
470.lbm	73.0	188	73.1	188	<b><u>73.1</u></b>	<b><u>188</u></b>	73.0	188	73.1	188	<b><u>73.1</u></b>	<b><u>188</u></b>
481.wrf	87.3	128	<b><u>86.9</u></b>	<b><u>129</u></b>	86.8	129	87.3	128	<b><u>86.9</u></b>	<b><u>129</u></b>	86.8	129
482.sphinx3	191	102	<b><u>192</u></b>	<b><u>102</u></b>	193	101	191	102	<b><u>192</u></b>	<b><u>102</u></b>	193	101

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:  
Sysinfo program /home/SPECcpu2006-RH72-ICC16-update/config/sysinfo.rev6914  
\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1  
running on TX1330M2 Fri Nov 13 15:54:49 2015

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:  
<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

From /proc/cpuinfo

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### Platform Notes (Continued)

model name : Intel(R) Xeon(R) CPU E3-1240 v5 @ 3.50GHz

1 "physical id"s (chips)  
8 "processors"

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

cpu cores : 4  
siblings : 8  
physical 0: cores 0 1 2 3  
cache size : 8192 KB

From /proc/meminfo

MemTotal: 65902000 kB  
HugePages\_Total: 0  
Hugepagesize: 2048 kB

/usr/bin/lsb\_release -d

SUSE Linux Enterprise Server 12

From /etc/\*release\* /etc/\*version\*

SuSE-release:

SUSE Linux Enterprise Server 12 (x86\_64)  
VERSION = 12  
PATCHLEVEL = 0

# This file is deprecated and will be removed in a future service pack or release.

# Please check /etc/os-release for details about this release.

os-release:

NAME="SLES"  
VERSION="12"  
VERSION\_ID="12"  
PRETTY\_NAME="SUSE Linux Enterprise Server 12"  
ID="sles"  
ANSI\_COLOR="0;32"  
CPE\_NAME="cpe:/o:suse:sles:12"

uname -a:

Linux TX1330M2 3.12.28-4-default #1 SMP Thu Sep 25 17:02:34 UTC 2014  
(9879bd4) x86\_64 x86\_64 x86\_64 GNU/Linux

run-level 5 Nov 13 11:37

SPEC is set to: /home/SPECcpu2006-RH72-ICC16-update

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda3	xfs	237G	21G	217G	9%	/home

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

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### Platform Notes (Continued)

BIOS FUJITSU // American Megatrends Inc. V5.0.0.11 R1.1.0 for D3373-A1x  
10/30/2015

Memory:  
4x SK Hynix HMA82GU7MFR8N-TF 16 GB 2 rank 2133 MHz

(End of data from sysinfo program)

### General Notes

Environment variables set by runspec before the start of the run:

KMP\_AFFINITY = "granularity=fine,compact,1,0"

LD\_LIBRARY\_PATH = "/home/SPECcpu2006-RH72-ICC16-update/libs/32:/home/SPECcpu2006-RH72-ICC16-update/libs/64:/home/SPECcpu2006-RH72-ICC16-update/sh"

OMP\_NUM\_THREADS = "4"

Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB  
memory using RedHat EL 7.1

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/transparent\_hugepage/enabled

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.dealII: -DSPEC\_CPU\_LP64

Continued on next page



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## Base Portability Flags (Continued)

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:  
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch  
-ansi-alias

C++ benchmarks:  
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

Fortran benchmarks:  
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch

Benchmarks using both Fortran and C:  
-xCORE-AVX2 -ipo -O3 -no-prec-div -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



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## Peak Optimization Flags

### C benchmarks:

433.milc: basepeak = yes

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

### C++ benchmarks:

444.namd: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)  
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)  
-par-num-threads=1(pass 1) -prof-use(pass 2) -fno-alias  
-auto-ilp32

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)  
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)  
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll4  
-ansi-alias

### Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)  
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)  
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll2  
-inline-level=0 -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)  
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)  
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll2  
-inline-level=0 -opt-prefetch -parallel

465.tonto: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)  
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)  
-par-num-threads=1(pass 1) -prof-use(pass 2) -inline-calloc  
-opt-malloc-options=3 -auto -unroll4

### Benchmarks using both Fortran and C:

Continued on next page



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## Peak Optimization Flags (Continued)

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xCORE-AVX2 -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-ic16.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.xml>

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

Tested with SPEC CPU2006 v1.2.  
Report generated on Tue Jan 26 15:12:36 2016 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 26 January 2016.