### SPEC® CFP2006 Result

**Fujitsu**

PRIMERGY TX1310 M3, Intel Xeon E3-1245 v6, 3.7GHz

<table>
<thead>
<tr>
<th>SPECfp®2006</th>
<th>SPECfp_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>103</td>
<td>102</td>
</tr>
</tbody>
</table>

**CPU2006 license:** 19  
**Test date:** Mar-2017  
**Hardware Availability:** Jun-2017  
**Test sponsor:** Fujitsu  
**Software Availability:** Nov-2016  
**Tested by:** Fujitsu

### Software

- **Operating System:** SUSE Linux Enterprise Server 12 SP2 (x86_64) 4.4.21-68-default
- **Compiler:** C/C++: Version 17.0.0.098 of Intel C/C++ Compiler for Linux; Fortran: Version 17.0.0.098 of Intel Fortran Compiler for Linux
- **Auto Parallel:** Yes
- **File System:** xfs
- **System State:** Run level 3 (multi-user)

### Hardware

- **CPU Name:** Intel Xeon E3-1245 v6  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 4.10 GHz  
- **CPU MHz:** 3700  
- **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

---

**410.bwaves**  
- Score: 55.6

**416.gamess**  
- Score: 53.7

**433.milc**  
- Score: 112

**434.zeusmp**  
- Score: 222

**435.gromacs**  
- Score: 73.2

**436.cactusADM**  
- Score: 391

**437.leslie3d**  
- Score: 117

**444.namd**  
- Score: 38.3

**447.dealII**  
- Score: 79.1

**450.soplex**  
- Score: 56.0

**453.povray**  
- Score: 83.9

**454.calculix**  
- Score: 82.2

**459.GemsFDTD**  
- Score: 91.0

**465.tonto**  
- Score: 73.1

**470.lbm**  
- Score: 72.3

**481.wrf**  
- Score: 139

**482.sphinx3**  
- Score: 205

---

**SPECfp_base2006 = 102**  
**SPECfp2006 = 103**

**Continued on next page**
Fujitsu

PRIMERGY TX1310 M3, Intel Xeon E3-1245 v6, 3.7GHz

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 64 GB (4 x 16 GB 2Rx8 PC4-2400T-E)
Disk Subsystem: 1 x 2TB, SATA III, 7200 RPM
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>92.0</td>
<td>148</td>
<td>90.9</td>
<td>150</td>
<td>90.7</td>
<td>150</td>
<td>92.0</td>
<td>148</td>
<td>90.9</td>
<td>150</td>
<td>90.7</td>
<td>150</td>
</tr>
<tr>
<td>416.gamess</td>
<td>365</td>
<td>53.7</td>
<td>365</td>
<td>53.7</td>
<td>365</td>
<td>53.6</td>
<td>353</td>
<td>55.5</td>
<td>352</td>
<td>55.6</td>
<td>352</td>
<td>55.6</td>
</tr>
<tr>
<td>433.milc</td>
<td>81.7</td>
<td>112</td>
<td>81.4</td>
<td>113</td>
<td>81.7</td>
<td>112</td>
<td>81.7</td>
<td>112</td>
<td>81.4</td>
<td>113</td>
<td>81.7</td>
<td>112</td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>40.9</td>
<td>222</td>
<td>40.9</td>
<td>223</td>
<td>40.9</td>
<td>222</td>
<td>40.9</td>
<td>222</td>
<td>40.9</td>
<td>223</td>
<td>40.9</td>
<td>222</td>
</tr>
<tr>
<td>435.gromacs</td>
<td>97.5</td>
<td>73.2</td>
<td>97.7</td>
<td>73.1</td>
<td>97.3</td>
<td>73.4</td>
<td>97.5</td>
<td>73.2</td>
<td>97.7</td>
<td>73.1</td>
<td>97.3</td>
<td>73.4</td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>30.7</td>
<td>390</td>
<td>30.6</td>
<td>391</td>
<td>30.2</td>
<td>396</td>
<td>30.7</td>
<td>390</td>
<td>30.6</td>
<td>391</td>
<td>30.2</td>
<td>396</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>80.5</td>
<td>117</td>
<td>80.5</td>
<td>117</td>
<td>80.5</td>
<td>117</td>
<td>80.5</td>
<td>117</td>
<td>80.5</td>
<td>117</td>
<td>80.5</td>
<td>117</td>
</tr>
<tr>
<td>444.namd</td>
<td>213</td>
<td>37.6</td>
<td>213</td>
<td>37.6</td>
<td>213</td>
<td>37.6</td>
<td>209</td>
<td>38.3</td>
<td>209</td>
<td>38.3</td>
<td>209</td>
<td>38.3</td>
</tr>
<tr>
<td>447.dealII</td>
<td>145</td>
<td>79.0</td>
<td>144</td>
<td>79.2</td>
<td>145</td>
<td>79.1</td>
<td>145</td>
<td>79.0</td>
<td>144</td>
<td>79.2</td>
<td>145</td>
<td>79.1</td>
</tr>
<tr>
<td>450.soplex</td>
<td>149</td>
<td>56.0</td>
<td>149</td>
<td>56.0</td>
<td>148</td>
<td>56.5</td>
<td>149</td>
<td>56.0</td>
<td>149</td>
<td>56.0</td>
<td>148</td>
<td>56.5</td>
</tr>
<tr>
<td>453.povray</td>
<td>73.5</td>
<td>72.4</td>
<td>72.8</td>
<td>73.1</td>
<td>73.5</td>
<td>72.4</td>
<td>62.8</td>
<td>84.7</td>
<td>63.8</td>
<td>83.3</td>
<td>63.4</td>
<td>83.9</td>
</tr>
<tr>
<td>454.calculix</td>
<td>100</td>
<td>82.2</td>
<td>100</td>
<td>82.1</td>
<td>100</td>
<td>82.2</td>
<td>100</td>
<td>82.2</td>
<td>100</td>
<td>82.1</td>
<td>100</td>
<td>82.2</td>
</tr>
<tr>
<td>459.GemsFDTD</td>
<td>118</td>
<td>89.8</td>
<td>118</td>
<td>89.8</td>
<td>118</td>
<td>89.6</td>
<td>117</td>
<td>90.9</td>
<td>117</td>
<td>91.0</td>
<td>116</td>
<td>91.1</td>
</tr>
<tr>
<td>465.tonto</td>
<td>136</td>
<td>72.2</td>
<td>136</td>
<td>72.4</td>
<td>136</td>
<td>72.3</td>
<td>135</td>
<td>73.1</td>
<td>134</td>
<td>73.4</td>
<td>135</td>
<td>73.0</td>
</tr>
<tr>
<td>470.lbm</td>
<td>67.2</td>
<td>204</td>
<td>67.2</td>
<td>205</td>
<td>67.1</td>
<td>205</td>
<td>67.2</td>
<td>204</td>
<td>67.2</td>
<td>205</td>
<td>67.1</td>
<td>205</td>
</tr>
<tr>
<td>481.wrf</td>
<td>80.6</td>
<td>139</td>
<td>80.6</td>
<td>139</td>
<td>80.4</td>
<td>139</td>
<td>80.6</td>
<td>139</td>
<td>80.6</td>
<td>139</td>
<td>80.4</td>
<td>139</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>181</td>
<td>108</td>
<td>181</td>
<td>108</td>
<td>182</td>
<td>107</td>
<td>181</td>
<td>108</td>
<td>181</td>
<td>108</td>
<td>182</td>
<td>107</td>
</tr>
</tbody>
</table>

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"
Turbo mode set with :
cpuset --all frequency-set -g performance
cpuset idle-set -d 2

cpuset idle-set -d 3
cpuset idle-set -d 4
echo always > /sys/kernel/mm/transparent_hugepage/enabled
KMP_AFFINITY = "granularity=fine,scatter"
OMP_NUM_THREADS = "4"
Fujitsu

PRIMERGY TX1310 M3, Intel Xeon E3-1245 v6, 3.7GHz

SPEC CFP2006 Result

SPECfp2006 = 103
SPECfp_base2006 = 102

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Mar-2017
Hardware Availability: Jun-2017
Software Availability: Nov-2016

Platform Notes

BIOS Settings:
Hyper-threading = Disabled
Sysinfo program /home/benchmark/speccpu-20160922-updated/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on linux-hz4t Mon Mar 6 18:56:39 2017

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
  model name : Intel(R) Xeon(R) CPU E3-1245 v6 @ 3.70GHz
  1 "physical id"s (chips)
  4 "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  : 4
  physical 0: cores 0 1 2 3
  cache size : 8192 KB

From /proc/meminfo
  MemTotal:       65791952 kB
  HugePages_Total:       0
  Hugepagesize:       2048 kB

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

SuSE-release:
  SUSE Linux Enterprise Server 12 (x86_64)
  VERSION = 12
  PATCHLEVEL = 2
  # 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-SP2"
    VERSION_ID="12.2"
    PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"
    ID="sles"
    ANSI_COLOR="0;32"
    CPE_NAME="cpe:/o:suse:sles:12:sp2"

uname -a:
  Linux linux-hz4t 4.4.21-68-default #1 SMP Tue Oct 18 18:19:37 UTC 2016
  (63cf368) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Mar 6 18:34

SPEC is set to: /home/benchmark/speccpu-20160922-updated
Filesystem     Type    Size    Used    Avail Used% Mounted on

Continued on next page
SPEC CFP2006 Result

Fujitsu
PRIMERGY TX1310 M3, Intel Xeon E3-1245 v6, 3.7GHz

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

SPECfp2006 = 103
SPECfp_base2006 = 102

Test date: Mar-2017
Hardware Availability: Jun-2017
Software Availability: Nov-2016

Platform Notes (Continued)
/dev/sda3  xfs  1.8T  6.5G  1.8T  1% /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.

BIOS FUJITSU // American Megatrends Inc. V5.0.0.11 R0.93.0 for D3521-A1x
02/23/2017
Memory:
4x Samsung M391A2K43BB1-CRC 16 GB 2 rank 2400 MHz

(End of data from sysinfo program)

General Notes
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "*/home/benchmark/speccpu-20160922-updated/libs/32:/home/benchmark/speccpu-20160922-updated/libs/64:/home/benchmark/speccpu-20160922-updated/sh10.2"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM
memory using Redhat Enterprise Linux 7.2
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage/enable

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

Continued on next page
SPEC CFP2006 Result

Fujitsu
PRIMERGY TX1310 M3, Intel Xeon E3-1245 v6, 3.7GHz

SPECfp2006 = 103
SPECfp_base2006 = 102

CPU2006 license: 19
Test sponsor: Fujitsu
Test date: Mar-2017
Tested by: Fujitsu
Hardware Availability: Jun-2017
Software Availability: Nov-2016

Base Portability Flags (Continued)

436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -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
463.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 -qopt-prefetch

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch

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

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

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
Fujitsu

PRIMERGY TX1310 M3, Intel Xeon E3-1245 v6, 3.7GHz

SPECfp2006 = 103
SPECfp_base2006 = 102

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Mar-2017
Hardware Availability: Jun-2017
Software Availability: Nov-2016

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes
470.lbm: basepeak = yes
482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
           -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
           -no-prec-div(pass 2) -fno-alias -auto-ivp32

447.dealII: basepeak = yes
450.soplex: basepeak = yes
453.povray: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
           -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
           -no-prec-div(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

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

434.zeusmp: basepeak = yes
437.leslie3d: basepeak = yes
459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
              -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
              -no-prec-div(pass 2) -unroll2 -inline-level=0 -qopt-prefetch -parallel

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

Continued on next page
SPEC CFP2006 Result

Fujitsu

PRIMERGY TX1310 M3, Intel Xeon E3-1245 v6, 3.7GHz

SPECfp2006 = 103
SPECfp_base2006 = 102

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Mar-2017
Hardware Availability: Jun-2017
Software Availability: Nov-2016

Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes
436.cactusADM: basepeak = yes
454.calculix: basepeak = yes
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-ic17.0-official-linux64.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-BDW-RevE.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-BDW-RevE.xml

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
Report generated on Tue Apr 4 16:57:16 2017 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 4 April 2017.