



SPEC[®] CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Fujitsu

SPECfp[®]_rate2006 = 212

PRIMERGY RX1330 M3, Intel Xeon E3-1280 v6, 3.9GHz

SPECfp_rate_base2006 = 207

CPU2006 license: 19

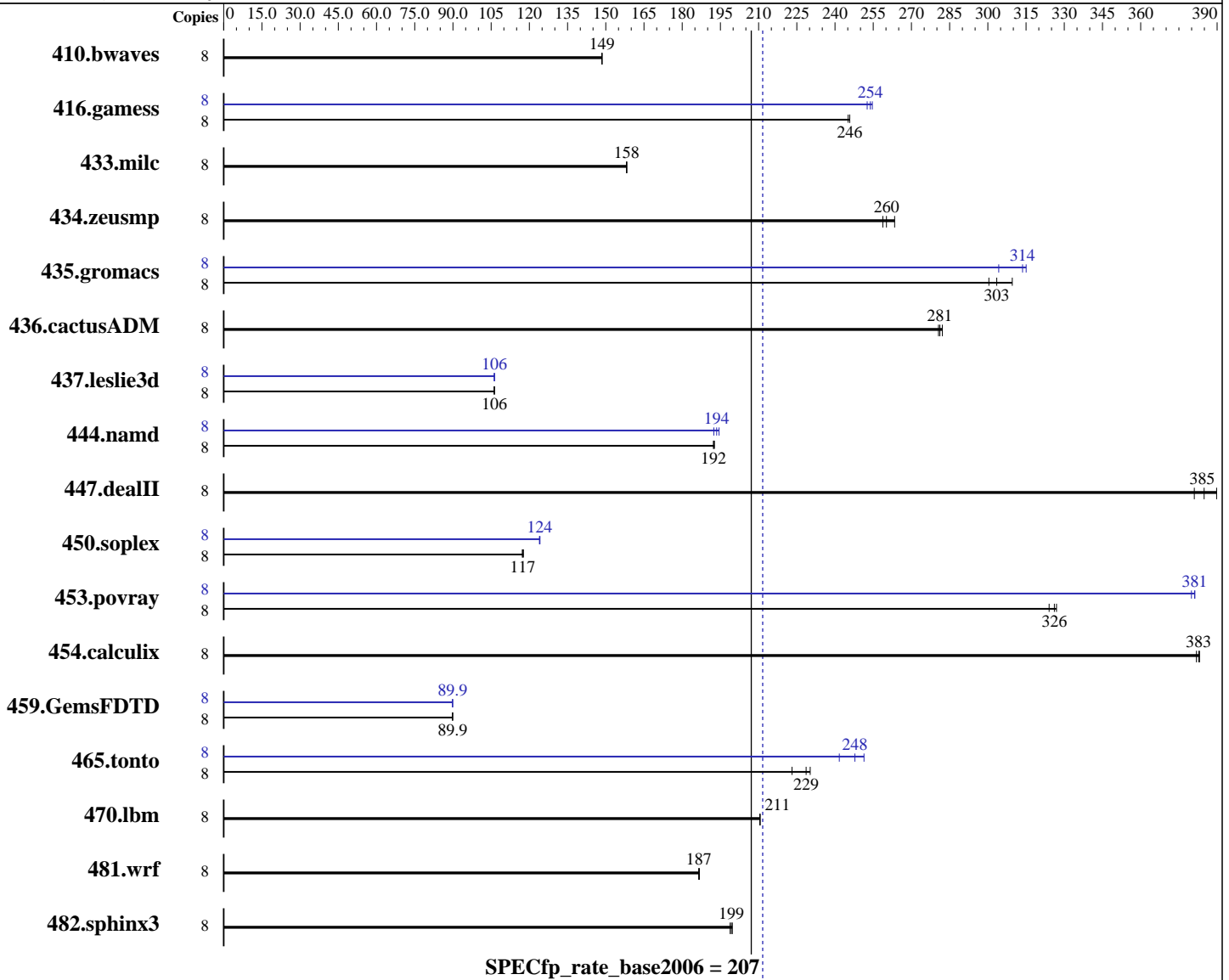
Test date: Mar-2017

Test sponsor: Fujitsu

Hardware Availability: May-2017

Tested by: Fujitsu

Software Availability: Nov-2016



Hardware

CPU Name: Intel Xeon E3-1280 v6
 CPU Characteristics: Intel Turbo Boost Technology up to 4.20 GHz
 CPU MHz: 3900
 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 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: No
 File System: xfs
 System State: Run level 3 (multi-user)

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Fujitsu

SPECfp_rate2006 = 212

PRIMERGY RX1330 M3, Intel Xeon E3-1280 v6, 3.9GHz

SPECfp_rate_base2006 = 207

CPU2006 license: 19

Test date: Mar-2017

Test sponsor: Fujitsu

Hardware Availability: May-2017

Tested by: Fujitsu

Software Availability: Nov-2016

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: 2 x SAS, 600 GB, 15000 RPM
 Other Hardware: None

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

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	732	149	<u>732</u>	<u>149</u>	732	148	8	732	149	<u>732</u>	<u>149</u>	732	148
416.gamess	8	639	245	637	246	<u>637</u>	<u>246</u>	8	620	253	615	255	<u>617</u>	<u>254</u>
433.milc	8	464	158	464	158	<u>464</u>	<u>158</u>	8	464	158	464	158	<u>464</u>	<u>158</u>
434.zeusmp	8	<u>280</u>	<u>260</u>	281	259	276	263	8	<u>280</u>	<u>260</u>	281	259	276	263
435.gromacs	8	190	300	<u>188</u>	<u>303</u>	185	310	8	<u>182</u>	<u>314</u>	181	315	188	304
436.cactusADM	8	339	282	<u>340</u>	<u>281</u>	341	281	8	339	282	<u>340</u>	<u>281</u>	341	281
437.leslie3d	8	708	106	<u>708</u>	<u>106</u>	708	106	8	<u>708</u>	<u>106</u>	708	106	707	106
444.namd	8	333	193	334	192	<u>334</u>	<u>192</u>	8	330	194	333	192	<u>332</u>	<u>194</u>
447.dealII	8	240	381	<u>238</u>	<u>385</u>	235	390	8	240	381	<u>238</u>	<u>385</u>	235	390
450.soplex	8	567	118	<u>568</u>	<u>117</u>	569	117	8	537	124	538	124	<u>538</u>	<u>124</u>
453.povray	8	<u>131</u>	<u>326</u>	130	327	131	324	8	<u>112</u>	<u>381</u>	112	380	112	381
454.calculix	8	<u>172</u>	<u>383</u>	172	383	173	382	8	<u>172</u>	<u>383</u>	172	383	173	382
459.GemsFDTD	8	945	89.8	944	89.9	<u>945</u>	<u>89.9</u>	8	<u>945</u>	<u>89.9</u>	945	89.9	945	89.9
465.tonto	8	342	230	353	223	<u>344</u>	<u>229</u>	8	313	251	<u>318</u>	<u>248</u>	326	242
470.lbm	8	522	211	522	211	<u>522</u>	<u>211</u>	8	522	211	522	211	<u>522</u>	<u>211</u>
481.wrf	8	479	187	479	187	<u>479</u>	<u>187</u>	8	479	187	479	187	<u>479</u>	<u>187</u>
482.sphinx3	8	781	200	784	199	<u>782</u>	<u>199</u>	8	781	200	784	199	<u>782</u>	<u>199</u>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

```
Stack size set to unlimited using "ulimit -s unlimited"
Turbo mode set with :
cpupower -c all frequency-set -g performance
cpupower idle-set -d 2
cpupower idle-set -d 3
cpupower idle-set -d 4
echo always > /sys/kernel/mm/transparent_hugepage/enabled
echo 1 > /proc/sys/vm/drop_caches
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Fujitsu

SPECfp_rate2006 = 212

PRIMERGY RX1330 M3, Intel Xeon E3-1280 v6, 3.9GHz

SPECfp_rate_base2006 = 207

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

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

Operating System Notes (Continued)

```
echo 1000000000 > /proc/sys/kernel/sched_min_granularity_ns
echo 1500000000 > /proc/sys/kernel/sched_wakeup_granularity_ns
```

Platform Notes

Sysinfo program /home/benchmark/speccpu-20160922-updated/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on linux-l8u9 Fri Mar 3 01:43:19 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 E3-1280 v6 @ 3.90GHz
 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:      65656544 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-l8u9 4.4.21-68-default #1 SMP Tue Oct 18 18:19:37 UTC 2016
(63cf368) x86_64 x86_64 x86_64 GNU/Linux
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Fujitsu

SPECfp_rate2006 = 212

PRIMERGY RX1330 M3, Intel Xeon E3-1280 v6, 3.9GHz

SPECfp_rate_base2006 = 207

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

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

Platform Notes (Continued)

run-level 3 Mar 3 01:39

SPEC is set to: /home/benchmark/speccpu-20160922-updated
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda4 xfs 516G 18G 499G 4% /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 R0.92.0 for D3375-B1x
02/02/2017

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/enabled
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

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



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Fujitsu

SPECfp_rate2006 = 212

PRIMERGY RX1330 M3, Intel Xeon E3-1280 v6, 3.9GHz

SPECfp_rate_base2006 = 207

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

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

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
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 -qopt-prefetch -auto-p32
-qopt-mem-layout-trans=3

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
-qopt-mem-layout-trans=3

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

Benchmarks using both Fortran and C:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
-qopt-mem-layout-trans=3

Peak Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks (except as noted below):
icpc -m64

450.soplex: icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Fujitsu

SPECfp_rate2006 = 212

PRIMERGY RX1330 M3, Intel Xeon E3-1280 v6, 3.9GHz

SPECfp_rate_base2006 = 207

CPU2006 license: 19

Test date: Mar-2017

Test sponsor: Fujitsu

Hardware Availability: May-2017

Tested by: Fujitsu

Software Availability: Nov-2016

Peak Compiler Invocation (Continued)

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

Peak 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
 450.soplex: -D_FILE_OFFSET_BITS=64
 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

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-ilp32
 -qopt-mem-layout-trans=3

447.dealII: basepeak = yes

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Fujitsu

SPECfp_rate2006 = 212

PRIMERGY RX1330 M3, Intel Xeon E3-1280 v6, 3.9GHz

SPECfp_rate_base2006 = 207

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Mar-2017

Hardware Availability: May-2017

Software Availability: Nov-2016

Peak Optimization Flags (Continued)

450.soplex: -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) -qopt-malloc-options=3
-qopt-mem-layout-trans=3

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 -qopt-mem-layout-trans=3

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: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch

459.GemsFDTD: Same as 437.leslie3d

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) -unroll4 -auto -inline-calloc
-qopt-malloc-options=3

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
-par-num-threads=1(pass 1) -qopt-prefetch -auto-ilp32
-qopt-mem-layout-trans=3

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 CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Fujitsu

SPECfp_rate2006 = 212

PRIMERGY RX1330 M3, Intel Xeon E3-1280 v6, 3.9GHz

SPECfp_rate_base2006 = 207

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Mar-2017

Hardware Availability: May-2017

Software Availability: Nov-2016

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 Wed Mar 29 16:29:04 2017 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 29 March 2017.