



SPEC[®] CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp[®]_rate2006 = 208

PowerEdge T130 (Intel Xeon E3-1230 v6, 3.50 GHz)

SPECfp_rate_base2006 = 201

CPU2006 license: 55

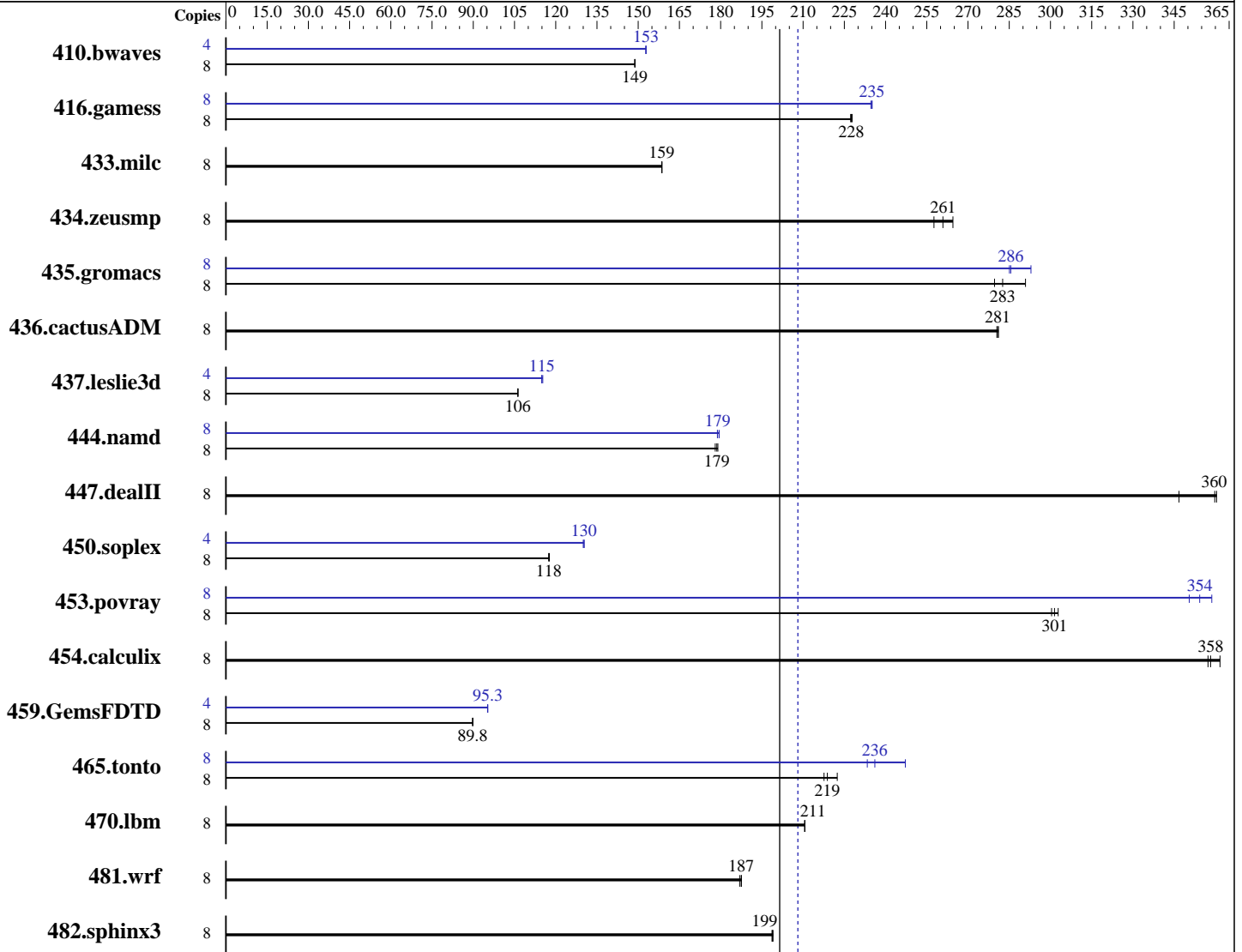
Test date: Apr-2017

Test sponsor: Dell Inc.

Hardware Availability: Apr-2017

Tested by: Dell Inc.

Software Availability: Sep-2016



SPECfp_rate_base2006 = 201

SPECfp_rate2006 = 208

Hardware

CPU Name: Intel Xeon E3-1230 v6
 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 SP2
 4.10.9-1.g195f937-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

Dell Inc.

SPECfp_rate2006 = 208

PowerEdge T130 (Intel Xeon E3-1230 v6, 3.50 GHz)

SPECfp_rate_base2006 = 201

CPU2006 license: 55

Test date: Apr-2017

Test sponsor: Dell Inc.

Hardware Availability: Apr-2017

Tested by: Dell Inc.

Software Availability: Sep-2016

L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 64 GB (4 x 16 GB 2Rx8 PC4-2400T-U)
Disk Subsystem: 500 GB SATA 7200 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	731	149	<u>731</u>	<u>149</u>	731	149	4	356	153	<u>356</u>	<u>153</u>	356	153
416.gamess	8	689	227	688	228	<u>688</u>	<u>228</u>	8	666	235	<u>666</u>	<u>235</u>	668	235
433.milc	8	463	159	463	159	<u>463</u>	<u>159</u>	8	463	159	463	159	<u>463</u>	<u>159</u>
434.zeusmp	8	283	258	<u>279</u>	<u>261</u>	275	265	8	283	258	<u>279</u>	<u>261</u>	275	265
435.gromacs	8	196	291	<u>202</u>	<u>283</u>	204	280	8	200	285	<u>200</u>	<u>286</u>	195	293
436.cactusADM	8	<u>340</u>	<u>281</u>	340	281	341	280	8	<u>340</u>	<u>281</u>	340	281	341	280
437.leslie3d	8	<u>708</u>	<u>106</u>	708	106	707	106	4	326	115	<u>327</u>	<u>115</u>	327	115
444.namd	8	360	178	358	179	<u>359</u>	<u>179</u>	8	<u>359</u>	<u>179</u>	359	179	357	179
447.dealII	8	<u>254</u>	<u>360</u>	254	360	264	347	8	<u>254</u>	<u>360</u>	254	360	264	347
450.soplex	8	567	118	568	117	<u>568</u>	<u>118</u>	4	257	130	<u>256</u>	<u>130</u>	256	130
453.povray	8	142	300	141	303	<u>141</u>	<u>301</u>	8	119	359	121	350	<u>120</u>	<u>354</u>
454.calculix	8	185	357	<u>184</u>	<u>358</u>	182	362	8	185	357	<u>184</u>	<u>358</u>	182	362
459.GemsFDTD	8	<u>945</u>	<u>89.8</u>	945	89.8	945	89.8	4	445	95.3	446	95.2	<u>446</u>	<u>95.3</u>
465.tonto	8	<u>360</u>	<u>219</u>	362	218	354	222	8	318	247	<u>333</u>	<u>236</u>	337	233
470.lbm	8	<u>522</u>	<u>211</u>	522	211	522	211	8	<u>522</u>	<u>211</u>	522	211	522	211
481.wrf	8	476	188	478	187	<u>477</u>	<u>187</u>	8	476	188	478	187	<u>477</u>	<u>187</u>
482.sphinx3	8	783	199	785	199	<u>784</u>	<u>199</u>	8	783	199	785	199	<u>784</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"

Platform Notes

BIOS settings:
Virtualization Technology disabled
System Profile set to Performance

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = 208

PowerEdge T130 (Intel Xeon E3-1230 v6, 3.50 GHz)

SPECfp_rate_base2006 = 201

CPU2006 license: 55

Test date: Apr-2017

Test sponsor: Dell Inc.

Hardware Availability: Apr-2017

Tested by: Dell Inc.

Software Availability: Sep-2016

Platform Notes (Continued)

Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on linux-9noi Fri Apr 14 14:32:44 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 E3-1230 v6 @ 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:      65934732 kB
HugePages_Total:    0
Hugepagesize:    2048 kB
```

```
/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 12 SP2
```

```
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-9noi 4.10.9-1.g195f937-default #1 SMP PREEMPT Sat Apr 8 15:30:03
UTC 2017 (195f937) x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Apr 14 06:45
```

```
SPEC is set to: /root/cpu2006-1.2
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = 208

PowerEdge T130 (Intel Xeon E3-1230 v6, 3.50 GHz)

SPECfp_rate_base2006 = 201

CPU2006 license: 55

Test date: Apr-2017

Test sponsor: Dell Inc.

Hardware Availability: Apr-2017

Tested by: Dell Inc.

Software Availability: Sep-2016

Platform Notes (Continued)

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda2	xfs	458G	13G	446G	3%	/

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 Dell Inc. 2.1.3 04/07/2017

Memory:

4x 002C0000002C 18ASF2G72AZ-2G3B1 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 = "/root/cpu2006-1.2/libs/32:/root/cpu2006-1.2/libs/64:/root/cpu2006-1.2/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 by default

Filesystem page cache cleared with:

```
echo 1> /proc/sys/vm/drop_caches
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

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64

416.gamess: -DSPEC_CPU_LP64

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 4



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = 208

PowerEdge T130 (Intel Xeon E3-1230 v6, 3.50 GHz)

SPECfp_rate_base2006 = 201

CPU2006 license: 55

Test date: Apr-2017

Test sponsor: Dell Inc.

Hardware Availability: Apr-2017

Tested by: Dell Inc.

Software Availability: Sep-2016

Base Portability Flags (Continued)

```

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
```

Fortran benchmarks:

```
ifort -m64
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = 208

PowerEdge T130 (Intel Xeon E3-1230 v6, 3.50 GHz)

SPECfp_rate_base2006 = 201

CPU2006 license: 55

Test date: Apr-2017

Test sponsor: Dell Inc.

Hardware Availability: Apr-2017

Tested by: Dell Inc.

Software Availability: Sep-2016

Peak Compiler Invocation (Continued)

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
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

```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = 208

PowerEdge T130 (Intel Xeon E3-1230 v6, 3.50 GHz)

SPECfp_rate_base2006 = 201

CPU2006 license: 55

Test date: Apr-2017

Test sponsor: Dell Inc.

Hardware Availability: Apr-2017

Tested by: Dell Inc.

Software Availability: Sep-2016

Peak Optimization Flags (Continued)

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

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: Same as 410.bwaves

459.GemsFDTD: Same as 410.bwaves

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/Dell-Platform-Flags-PowerEdge13G-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/Dell-Platform-Flags-PowerEdge13G-revE.xml>



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp_rate2006 = 208

PowerEdge T130 (Intel Xeon E3-1230 v6, 3.50 GHz)

SPECfp_rate_base2006 = 201

CPU2006 license: 55

Test date: Apr-2017

Test sponsor: Dell Inc.

Hardware Availability: Apr-2017

Tested by: Dell Inc.

Software Availability: Sep-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 Tue May 2 14:05:13 2017 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 2 May 2017.