



# SPEC® CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Lenovo Group Limited

SPECfp®\_rate2006 = 193

Lenovo System x3250 M6  
(3.40 GHz, Intel Xeon E3-1230 v5)

SPECfp\_rate\_base2006 = 189

CPU2006 license: 9017

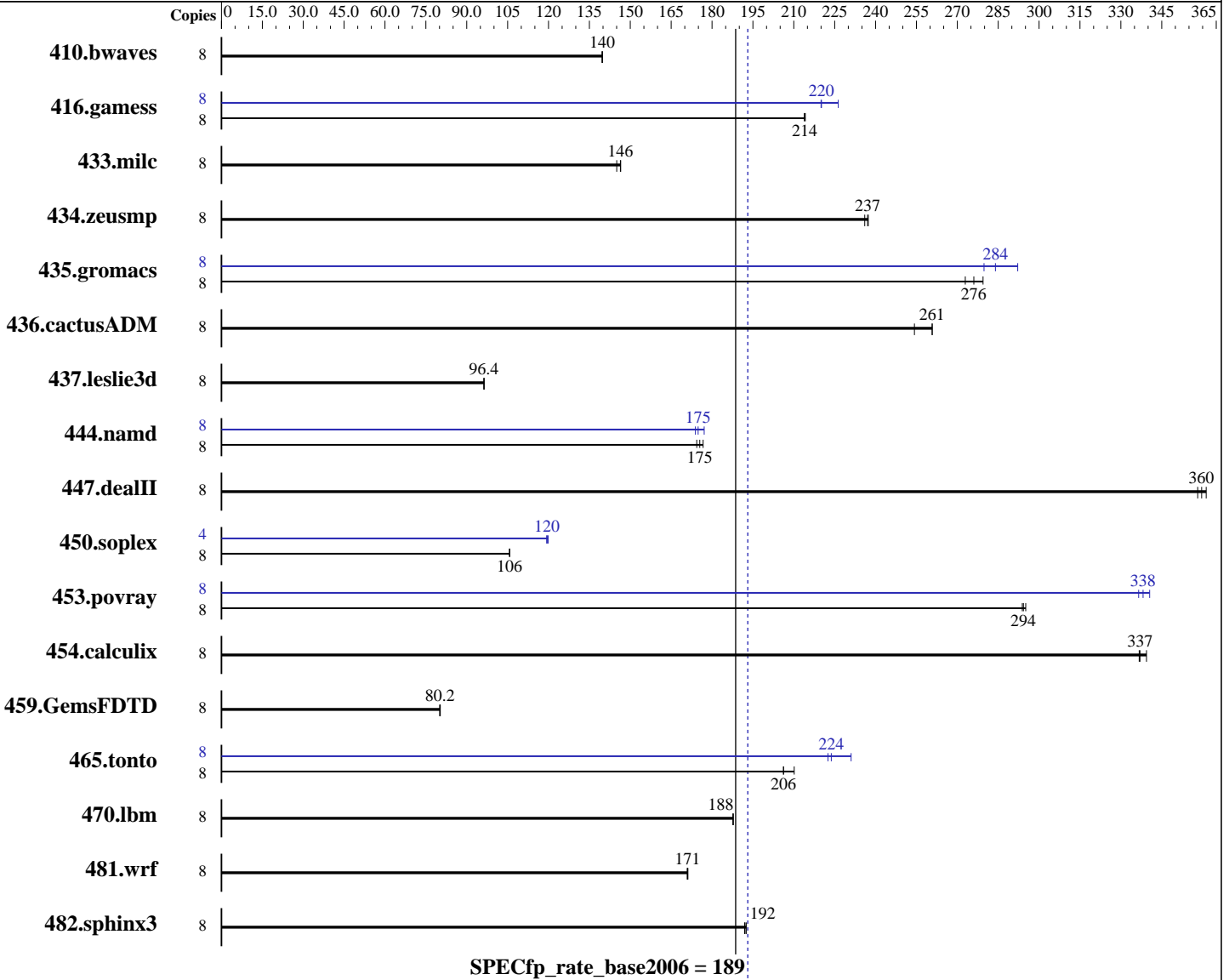
Test sponsor: Lenovo Group Limited

Tested by: Lenovo Group Limited

Test date: Nov-2016

Hardware Availability: Apr-2016

Software Availability: Mar-2016



### Hardware

CPU Name: Intel Xeon E3-1230 v5  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz  
 CPU MHz: 3400  
 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 SP1 (x86\_64)  
 Kernel 3.12.49-11-default  
 Compiler: C/C++: Version 16.0.2.181 of Intel C++ Studio XE for Linux;  
 Fortran: Version 16.0.2.181 of Intel Fortran Studio XE for Linux  
 Auto Parallel: No  
 File System: xfs  
 System State: Run level 3 (multi-user)

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Lenovo Group Limited

SPECfp\_rate2006 = 193

Lenovo System x3250 M6  
(3.40 GHz, Intel Xeon E3-1230 v5)

SPECfp\_rate\_base2006 = 189

CPU2006 license: 9017

Test date: Nov-2016

Test sponsor: Lenovo Group Limited

Hardware Availability: Apr-2016

Tested by: Lenovo Group Limited

Software Availability: Mar-2016

L3 Cache: 8 MB I+D on chip per chip  
Other Cache: None  
Memory: 16 GB (2 x 8 GB 2Rx8 PC4-2133P-E)  
Disk Subsystem: 1 x 800 GB SATA SSD  
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	<b>778</b>	<b>140</b>	778	140	778	140	8	<b>778</b>	<b>140</b>	778	140	778	140
416.gamess	8	<b>732</b>	<b>214</b>	731	214	732	214	8	<b>711</b>	<b>220</b>	712	220	692	226
433.milc	8	506	145	501	146	<b>502</b>	<b>146</b>	8	506	145	501	146	<b>502</b>	<b>146</b>
434.zeusmp	8	307	237	<b>307</b>	<b>237</b>	308	236	8	307	237	<b>307</b>	<b>237</b>	308	236
435.gromacs	8	209	273	<b>207</b>	<b>276</b>	204	279	8	<b>201</b>	<b>284</b>	204	280	196	292
436.cactusADM	8	376	254	367	261	<b>367</b>	<b>261</b>	8	376	254	367	261	<b>367</b>	<b>261</b>
437.leslie3d	8	781	96.3	<b>780</b>	<b>96.4</b>	780	96.4	8	781	96.3	<b>780</b>	<b>96.4</b>	780	96.4
444.namd	8	<b>366</b>	<b>175</b>	363	177	368	174	8	369	174	<b>367</b>	<b>175</b>	362	177
447.dealII	8	<b>254</b>	<b>360</b>	253	361	255	358	8	<b>254</b>	<b>360</b>	253	361	255	358
450.soplex	8	631	106	<b>631</b>	<b>106</b>	631	106	4	278	120	<b>279</b>	<b>120</b>	280	119
453.povray	8	<b>145</b>	<b>294</b>	145	294	144	295	8	126	337	<b>126</b>	<b>338</b>	125	341
454.calculix	8	194	339	<b>196</b>	<b>337</b>	196	337	8	194	339	<b>196</b>	<b>337</b>	196	337
459.GemsFDTD	8	<b>1058</b>	<b>80.2</b>	1057	80.3	1060	80.0	8	<b>1058</b>	<b>80.2</b>	1057	80.3	1060	80.0
465.tonto	8	382	206	375	210	<b>382</b>	<b>206</b>	8	<b>352</b>	<b>224</b>	354	223	341	231
470.lbm	8	585	188	<b>585</b>	<b>188</b>	586	188	8	585	188	<b>585</b>	<b>188</b>	586	188
481.wrf	8	522	171	<b>522</b>	<b>171</b>	523	171	8	522	171	<b>522</b>	<b>171</b>	523	171
482.sphinx3	8	812	192	809	193	<b>812</b>	<b>192</b>	8	812	192	809	193	<b>812</b>	<b>192</b>

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

## Submit Notes

The taskset mechanism was used to bind copies to processors. The config file option 'submit' was used to generate taskset 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"  
Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/transparent\_hugepage/enabled



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Lenovo Group Limited

**SPECfp\_rate2006 = 193**

Lenovo System x3250 M6  
(3.40 GHz, Intel Xeon E3-1230 v5)

**SPECfp\_rate\_base2006 = 189**

**CPU2006 license:** 9017

**Test date:** Nov-2016

**Test sponsor:** Lenovo Group Limited

**Hardware Availability:** Apr-2016

**Tested by:** Lenovo Group Limited

**Software Availability:** Mar-2016

### Platform Notes

#### BIOS Configuration:

```
Operating Modes set to Maximum Performance
Sysinfo program /home/cpu2006-1.2-ic16.0/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on x3250-02 Sat Nov 26 02:52:08 2016
```

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 v5 @ 3.40GHz
 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:      16421272 kB
HugePages_Total:    0
Hugepagesize:    2048 kB
```

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

```
SuSE-release:
SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 1
# 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-SP1"
VERSION_ID="12.1"
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP1"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12:sp1"
```

#### uname -a:

```
Linux x3250-02 3.12.49-11-default #1 SMP Wed Nov 11 20:52:43 UTC 2015
(8d714a0) x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Nov 25 18:46

SPEC is set to: /home/cpu2006-1.2-ic16.0

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
------------	------	------	------	-------	------	------------

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

**Lenovo Group Limited**

**SPECfp\_rate2006 = 193**

Lenovo System x3250 M6  
(3.40 GHz, Intel Xeon E3-1230 v5)

**SPECfp\_rate\_base2006 = 189**

**CPU2006 license:** 9017

**Test date:** Nov-2016

**Test sponsor:** Lenovo Group Limited

**Hardware Availability:** Apr-2016

**Tested by:** Lenovo Group Limited

**Software Availability:** Mar-2016

## Platform Notes (Continued)

/dev/sda3 xfs 691G 4.2G 687G 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 LENOVO -[M3E107GUS-1.20]- 10/28/2016

Memory:

2x NO DIMM Unknown

2x Samsung M391A1G43EB1-CPB 8 GB 2 rank 2133 MHz

(End of data from sysinfo program)

## General Notes

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

LD\_LIBRARY\_PATH = "/home/cpu2006-1.2-ic16.0/libs/32:/home/cpu2006-1.2-ic16.0/libs/64:/home/cpu2006-1.2-ic16.0/sh"

Binaries compiled on a system with 1x Intel Core i7-4790K CPU + 32GB memory using RedHat EL 7.2 glibc 2.17

## 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

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 4



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

**Lenovo Group Limited**

**SPECfp\_rate2006 = 193**

Lenovo System x3250 M6  
(3.40 GHz, Intel Xeon E3-1230 v5)

**SPECfp\_rate\_base2006 = 189**

**CPU2006 license:** 9017

**Test date:** Nov-2016

**Test sponsor:** Lenovo Group Limited

**Hardware Availability:** Apr-2016

**Tested by:** Lenovo Group Limited

**Software Availability:** Mar-2016

## Base Portability Flags (Continued)

```

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 -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

```

C++ benchmarks:

```

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

```

Fortran benchmarks:

```

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

```

Benchmarks using both Fortran and C:

```

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-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_2016/linux/compiler/lib/ia32_lin

```

Fortran benchmarks:

```

ifort -m64

```

Benchmarks using both Fortran and C:

```

icc -m64 ifort -m64

```



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Lenovo Group Limited

**SPECfp\_rate2006 = 193**

Lenovo System x3250 M6  
(3.40 GHz, Intel Xeon E3-1230 v5)

**SPECfp\_rate\_base2006 = 189**

**CPU2006 license:** 9017

**Test date:** Nov-2016

**Test sponsor:** Lenovo Group Limited

**Hardware Availability:** Apr-2016

**Tested by:** Lenovo Group Limited

**Software Availability:** Mar-2016

## 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: -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) -opt-mem-layout-trans=3(pass 2)
         -prof-use(pass 2) -fno-alias -auto-ilp32

```

447.dealII: basepeak = yes

```

450.soplex: -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) -opt-mem-layout-trans=3(pass 2)
           -prof-use(pass 2) -opt-malloc-options=3

```

```

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) -opt-mem-layout-trans=3(pass 2)
           -prof-use(pass 2) -unroll4 -ansi-alias

```

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECfp\_rate2006 = 193

Lenovo System x3250 M6  
(3.40 GHz, Intel Xeon E3-1230 v5)

SPECfp\_rate\_base2006 = 189

CPU2006 license: 9017

Test date: Nov-2016

Test sponsor: Lenovo Group Limited

Hardware Availability: Apr-2016

Tested by: Lenovo Group Limited

Software Availability: Mar-2016

## Peak Optimization Flags (Continued)

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: basepeak = yes

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

Benchmarks using both Fortran and C:

435.gromacs: -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) -opt-mem-layout-trans=3(pass 2)  
-prof-use(pass 2) -opt-prefetch -auto-ilp32

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-ic16.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Lenovo-Platform-Settings-V1.2-BDW-revC.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/Lenovo-Platform-Settings-V1.2-BDW-revC.xml>



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Lenovo Group Limited

Lenovo System x3250 M6  
(3.40 GHz, Intel Xeon E3-1230 v5)

SPECfp\_rate2006 = 193

SPECfp\_rate\_base2006 = 189

**CPU2006 license:** 9017

**Test sponsor:** Lenovo Group Limited

**Tested by:** Lenovo Group Limited

**Test date:** Nov-2016

**Hardware Availability:** Apr-2016

**Software Availability:** Mar-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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Thu Dec 15 11:18:24 2016 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 13 December 2016.