



SPEC® CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECfp®2006 = 107

Lenovo ThinkServer RS160
(3.80 GHz, Intel Xeon E3-1270 v6)

SPECfp_base2006 = 106

CPU2006 license: 9017

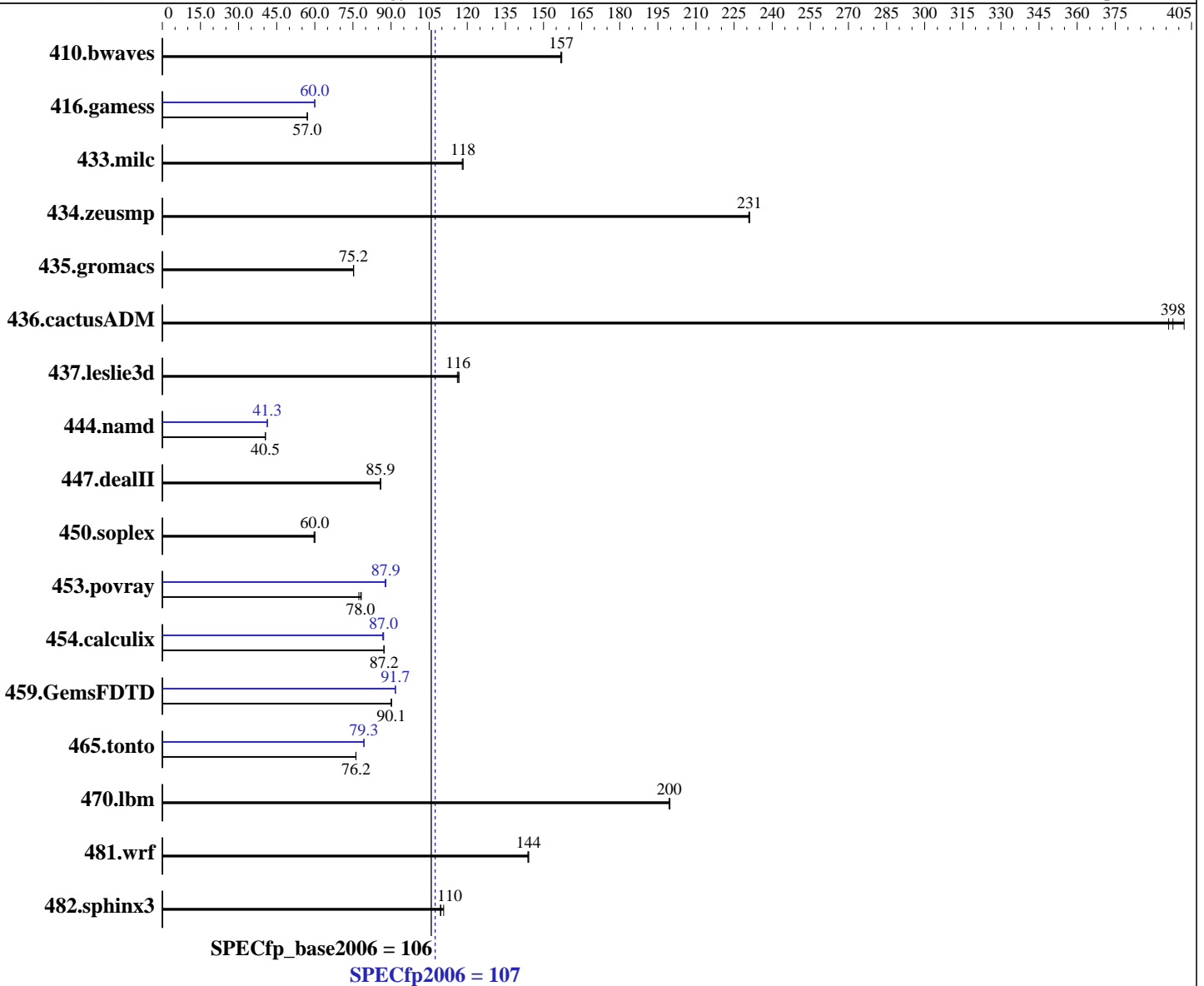
Test date: Jul-2017

Test sponsor: Lenovo Global Technology

Hardware Availability: Jun-2017

Tested by: Lenovo Global Technology

Software Availability: Apr-2017



Hardware

CPU Name: Intel Xeon E3-1270 v6
 CPU Characteristics: Intel Turbo Boost Technology up to 4.20 GHz
 CPU MHz: 3800
 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

Continued on next page

Software

Operating System: Red Hat Enterprise Linux Server release 7.3 (Maipo)
 Kernel 3.10.0-514.el7.x86_64
 Compiler: C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux;
 Fortran: Version 17.0.3.191 of Intel Fortran Compiler for Linux
 Auto Parallel: Yes
 File System: xfs

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECfp2006 = **107**

Lenovo ThinkServer RS160
(3.80 GHz, Intel Xeon E3-1270 v6)

SPECfp_base2006 = **106**

CPU2006 license: 9017

Test date: Jul-2017

Test sponsor: Lenovo Global Technology

Hardware Availability: Jun-2017

Tested by: Lenovo Global Technology

Software Availability: Apr-2017

L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 32 GB (2 x 16 GB 2Rx8 PC4-2400T-E)
Disk Subsystem: 1 x 960 GB SATA SSD
Other Hardware: None

System State: Run level 3 (multi-user)
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	86.5	157	86.7	157	86.6	157	86.5	157	86.7	157	86.6	157
416.gamess	343	57.0	343	57.0	343	57.1	326	60.0	327	59.9	327	60.0
433.milc	77.8	118	77.6	118	77.6	118	77.8	118	77.6	118	77.6	118
434.zeusmp	39.4	231	39.4	231	39.4	231	39.4	231	39.4	231	39.4	231
435.gromacs	94.9	75.2	94.9	75.2	94.8	75.3	94.9	75.2	94.9	75.2	94.8	75.3
436.cactusADM	30.0	398	30.2	396	29.7	402	30.0	398	30.2	396	29.7	402
437.leslie3d	80.8	116	80.5	117	81.0	116	80.8	116	80.5	117	81.0	116
444.namd	198	40.5	198	40.5	198	40.5	194	41.3	194	41.4	194	41.3
447.dealII	133	85.9	133	85.8	133	85.9	133	85.9	133	85.8	133	85.9
450.soplex	139	60.0	140	59.7	139	60.0	139	60.0	140	59.7	139	60.0
453.povray	68.8	77.3	68.2	78.0	67.9	78.3	60.5	88.0	60.5	87.9	60.7	87.6
454.calculix	94.5	87.3	94.6	87.2	94.6	87.2	95.1	86.7	94.8	87.1	94.8	87.0
459.GemsFDTD	118	90.1	118	90.1	118	90.2	116	91.7	116	91.7	116	91.7
465.tonto	129	76.2	129	76.2	129	76.2	124	79.3	124	79.4	124	79.3
470.lbm	68.8	200	68.9	199	68.9	200	68.8	200	68.9	199	68.9	200
481.wrf	77.5	144	77.5	144	77.7	144	77.5	144	77.5	144	77.7	144
482.sphinx3	176	111	178	110	178	109	176	111	178	110	178	109

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:

Intel Hyper Threading Technology set to Disabled
Boot performance mode set to Turbo Performance
Sysinfo program /home/cpu2006-1.2-ic17.0u3/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on rs160 Mon Jul 31 10:37:06 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>

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECfp2006 = 107

Lenovo ThinkServer RS160
(3.80 GHz, Intel Xeon E3-1270 v6)

SPECfp_base2006 = 106

CPU2006 license: 9017

Test date: Jul-2017

Test sponsor: Lenovo Global Technology

Hardware Availability: Jun-2017

Tested by: Lenovo Global Technology

Software Availability: Apr-2017

Platform Notes (Continued)

```

From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E3-1270 v6 @ 3.80GHz
 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:      32890216 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

```

From /etc/*release* /etc/*version*
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.3 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.3"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.3 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.3:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.3:ga:server

```

```

uname -a:
Linux rs160 3.10.0-514.el7.x86_64 #1 SMP Wed Oct 19 11:24:13 EDT 2016 x86_64
x86_64 x86_64 GNU/Linux

```

run-level 3 Jul 31 10:36

```

SPEC is set to: /home/cpu2006-1.2-ic17.0u3
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda4        xfs   838G  12G  827G   2% /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 American Megatrends Inc. VB1TS223 03/16/2017

Memory:

2x Micron 18ASF2G72AZ-2G3B1 16 GB 2 rank 2400 MHz
2x Not Specified Not Specified

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECfp2006 = 107

Lenovo ThinkServer RS160
(3.80 GHz, Intel Xeon E3-1270 v6)

SPECfp_base2006 = 106

CPU2006 license: 9017

Test date: Jul-2017

Test sponsor: Lenovo Global Technology

Hardware Availability: Jun-2017

Tested by: Lenovo Global Technology

Software Availability: Apr-2017

Platform Notes (Continued)

(End of data from sysinfo program)

General Notes

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

KMP_AFFINITY = "granularity=fine,compact"

LD_LIBRARY_PATH = "/home/cpu2006-1.2-ic17.0u3/lib/ia32:/home/cpu2006-1.2-ic17.0u3/lib/intel64:/home/cpu2006-1.2-ic17.0u3/sh10.2"

OMP_NUM_THREADS = "4"

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:

shell invocation of 'sync; echo 3 > /proc/sys/vm/drop_caches' prior to run

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
 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

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECfp2006 = 107

Lenovo ThinkServer RS160
(3.80 GHz, Intel Xeon E3-1270 v6)

SPECfp_base2006 = 106

CPU2006 license: 9017

Test date: Jul-2017

Test sponsor: Lenovo Global Technology

Hardware Availability: Jun-2017

Tested by: Lenovo Global Technology

Software Availability: Apr-2017

Base Portability Flags (Continued)

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

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:
433.milc: basepeak = yes

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECfp2006 = 107

Lenovo ThinkServer RS160
(3.80 GHz, Intel Xeon E3-1270 v6)

SPECfp_base2006 = 106

CPU2006 license: 9017

Test date: Jul-2017

Test sponsor: Lenovo Global Technology

Hardware Availability: Jun-2017

Tested by: Lenovo Global Technology

Software Availability: Apr-2017

Peak Optimization Flags (Continued)

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

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

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32

481.wrf: basepeak = yes



SPEC CFP2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Lenovo Global Technology

Lenovo ThinkServer RS160
(3.80 GHz, Intel Xeon E3-1270 v6)

SPECfp2006 = 107

SPECfp_base2006 = 106

CPU2006 license: 9017

Test sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test date: Jul-2017

Hardware Availability: Jun-2017

Software Availability: Apr-2017

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-revF.html>

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

<http://www.spec.org/cpu2006/flags/Lenovo-Platform-Settings-V1.2-KBL-revC.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 Wed Aug 23 13:37:38 2017 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 23 August 2017.