



SPEC® CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint®_rate2006 = 285

Lenovo system x3250 M6
(3.90 GHz, Intel Xeon E3-1280 v6)

SPECint_rate_base2006 = 274

CPU2006 license: 9017

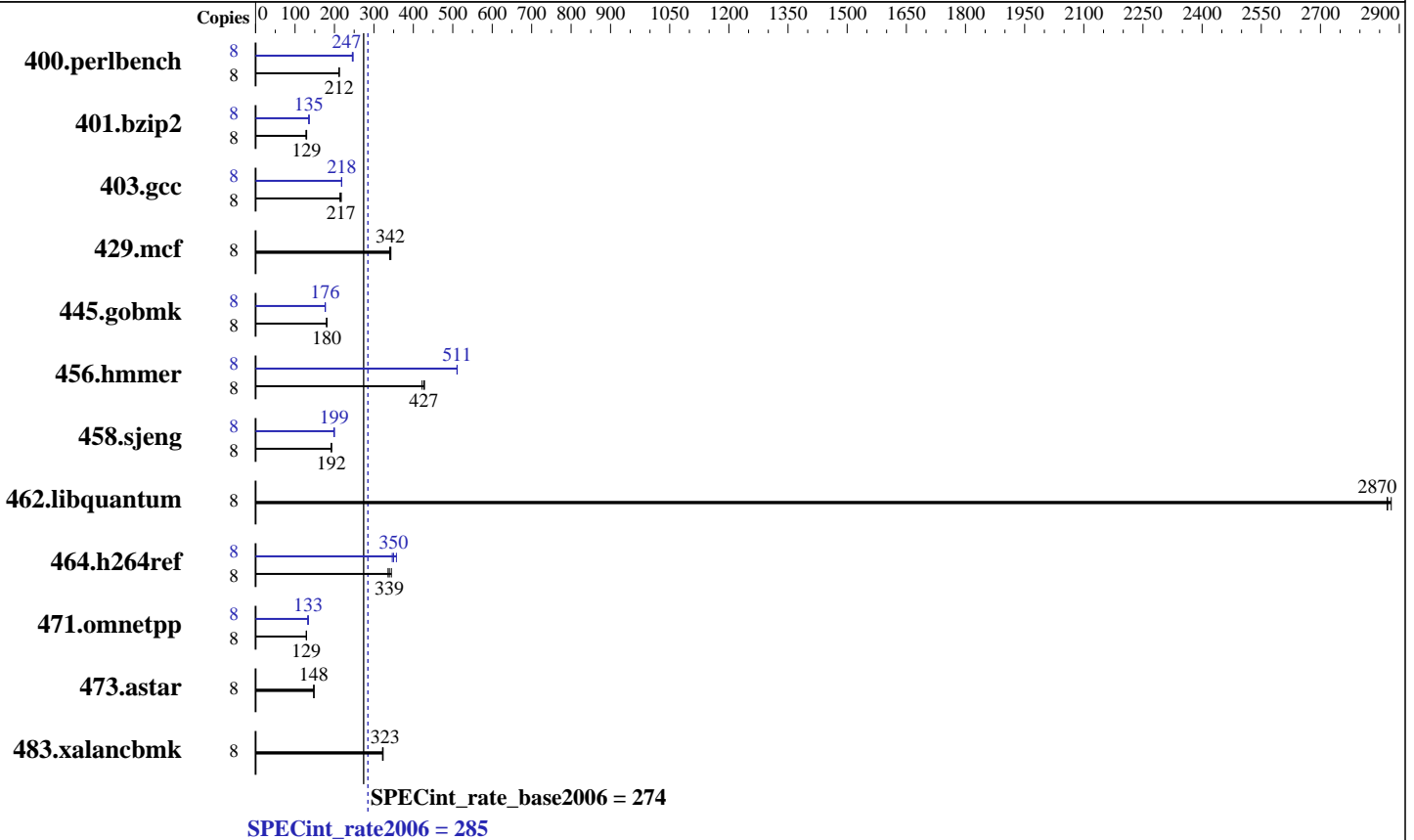
Test date: Mar-2017

Test sponsor: Lenovo Group Limited

Hardware Availability: Apr-2017

Tested by: Lenovo Group Limited

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
 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: 1 x 800 GB SATA SSD
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 12 SP2 (x86_64)
 Kernel 4.4.21-69-default
 Compiler: C/C++: Version 17.0.0.098 of Intel C/C++ Compiler for Linux
 Auto Parallel: No
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V10.2



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 285

Lenovo system x3250 M6
(3.90 GHz, Intel Xeon E3-1280 v6)

SPECint_rate_base2006 = 274

CPU2006 license: 9017

Test date: Mar-2017

Test sponsor: Lenovo Group Limited

Hardware Availability: Apr-2017

Tested by: Lenovo Group Limited

Software Availability: Nov-2016

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	<u>369</u>	<u>212</u>	370	211	368	212	8	317	247	<u>317</u>	<u>247</u>	319	245
401.bzip2	8	605	128	596	130	<u>597</u>	<u>129</u>	8	572	135	<u>571</u>	<u>135</u>	568	136
403.gcc	8	297	217	<u>297</u>	<u>217</u>	301	214	8	295	218	<u>295</u>	<u>218</u>	295	218
429.mcf	8	215	340	<u>214</u>	<u>342</u>	213	343	8	215	340	<u>214</u>	<u>342</u>	213	343
445.gobmk	8	465	180	466	180	<u>466</u>	<u>180</u>	8	476	176	474	177	<u>476</u>	<u>176</u>
456.hammer	8	<u>175</u>	<u>427</u>	177	422	174	428	8	146	511	146	511	<u>146</u>	<u>511</u>
458.sjeng	8	505	192	<u>503</u>	<u>192</u>	503	192	8	488	198	<u>485</u>	<u>199</u>	485	200
462.libquantum	8	<u>57.8</u>	<u>2870</u>	57.6	2880	57.8	2870	8	<u>57.8</u>	<u>2870</u>	57.6	2880	57.8	2870
464.h264ref	8	<u>522</u>	<u>339</u>	527	336	514	344	8	511	347	<u>506</u>	<u>350</u>	496	357
471.omnetpp	8	387	129	<u>388</u>	<u>129</u>	389	129	8	378	132	<u>376</u>	<u>133</u>	374	134
473.astar	8	380	148	<u>380</u>	<u>148</u>	380	148	8	380	148	<u>380</u>	<u>148</u>	380	148
483.xalancbmk	8	<u>171</u>	<u>323</u>	172	322	171	323	8	<u>171</u>	<u>323</u>	172	322	171	323

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"
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled
Filesystem page cache cleared with:
echo 1> /proc/sys/vm/drop_caches

Platform Notes

BIOS configuration:
Intel Virtualization Technology set to Disable
Operating Mode set to Maximum Performance
DCU Streamer Prefetcher set to Disable
Sysinfo program /home/cpu2006-1.2-ic17.0/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on linux-zyye Thu Mar 16 02:31:08 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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 285

Lenovo system x3250 M6
(3.90 GHz, Intel Xeon E3-1280 v6)

SPECint_rate_base2006 = 274

CPU2006 license: 9017

Test date: Mar-2017

Test sponsor: Lenovo Group Limited

Hardware Availability: Apr-2017

Tested by: Lenovo Group Limited

Software Availability: Nov-2016

Platform Notes (Continued)

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: 65931684 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-zyye 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016
(9464f67) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Mar 16 02:18

SPEC is set to: /home/cpu2006-1.2-ic17.0

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda4	xfs	689G	17G	673G	3%	/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 -[M3E121PUS-2.00]- 03/14/2017

Memory:

4x Samsung M378A2K43BB1-CRC 16 GB 2 rank 2400 MHz
Continued on next page



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 285

Lenovo system x3250 M6
(3.90 GHz, Intel Xeon E3-1280 v6)

SPECint_rate_base2006 = 274

CPU2006 license: 9017

Test date: Mar-2017

Test sponsor: Lenovo Group Limited

Hardware Availability: Apr-2017

Tested by: Lenovo Group Limited

Software Availability: Nov-2016

Platform Notes (Continued)

(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-ic17.0/libs/32:/home/cpu2006-1.2-ic17.0/libs/64:/home/cpu2006-1.2-ic17.0/sh10.2"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM
memory using Redhat Enterprise Linux 7.2

runspec command invoked through numactl i.e.:

numactl --interleave=all runspec <etc>

Base Compiler Invocation

C benchmarks:

icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32

C++ benchmarks:

icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32

Base Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -D_FILE_OFFSET_BITS=64
403.gcc: -D_FILE_OFFSET_BITS=64
429.mcf: -D_FILE_OFFSET_BITS=64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -D_FILE_OFFSET_BITS=64
458.sjeng: -D_FILE_OFFSET_BITS=64
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh10.2 -lsmartheap



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 285

Lenovo system x3250 M6
(3.90 GHz, Intel Xeon E3-1280 v6)

SPECint_rate_base2006 = 274

CPU2006 license: 9017

Test date: Mar-2017

Test sponsor: Lenovo Group Limited

Hardware Availability: Apr-2017

Tested by: Lenovo Group Limited

Software Availability: Nov-2016

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64

401.bzip2: -DSPEC_CPU_LP64

403.gcc: -D_FILE_OFFSET_BITS=64

429.mcf: -D_FILE_OFFSET_BITS=64

445.gobmk: -D_FILE_OFFSET_BITS=64

456.hmmer: -DSPEC_CPU_LP64

458.sjeng: -DSPEC_CPU_LP64

462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

464.h264ref: -D_FILE_OFFSET_BITS=64

471.omnetpp: -D_FILE_OFFSET_BITS=64

473.astar: -D_FILE_OFFSET_BITS=64

483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -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) -auto-ilp32 -qopt-mem-layout-trans=3

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 5



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 285

Lenovo system x3250 M6
(3.90 GHz, Intel Xeon E3-1280 v6)

SPECint_rate_base2006 = 274

CPU2006 license: 9017

Test date: Mar-2017

Test sponsor: Lenovo Group Limited

Hardware Availability: Apr-2017

Tested by: Lenovo Group Limited

Software Availability: Nov-2016

Peak Optimization Flags (Continued)

401.bzip2: -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-prefetch -auto-ilp32
-qopt-mem-layout-trans=3

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3

429.mcf: basepeak = yes

445.gobmk: -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-mem-layout-trans=3

456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
-qopt-mem-layout-trans=3

458.sjeng: -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-ilp32
-qopt-mem-layout-trans=3

462.libquantum: basepeak = yes

464.h264ref: -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 -qopt-mem-layout-trans=3

C++ benchmarks:

471.omnetpp: -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-ra-region-strategy=block
-qopt-mem-layout-trans=3 -Wl,-z,muldefs
-L/sh10.2 -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 285

Lenovo system x3250 M6
(3.90 GHz, Intel Xeon E3-1280 v6)

SPECint_rate_base2006 = 274

CPU2006 license: 9017

Test date: Mar-2017

Test sponsor: Lenovo Group Limited

Hardware Availability: Apr-2017

Tested by: Lenovo Group Limited

Software Availability: Nov-2016

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/Lenovo-Platform-Flags-V1.2-BDW-D.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/Lenovo-Platform-Flags-V1.2-BDW-D.xml>

SPEC and SPECint 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 16:57:15 2017 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 4 April 2017.