



SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint®2006 = 66.0

Lenovo System x3500 M5
(Intel Xeon E5-2699 v3, 2.30 GHz)

SPECint_base2006 = 64.0

CPU2006 license: 9017

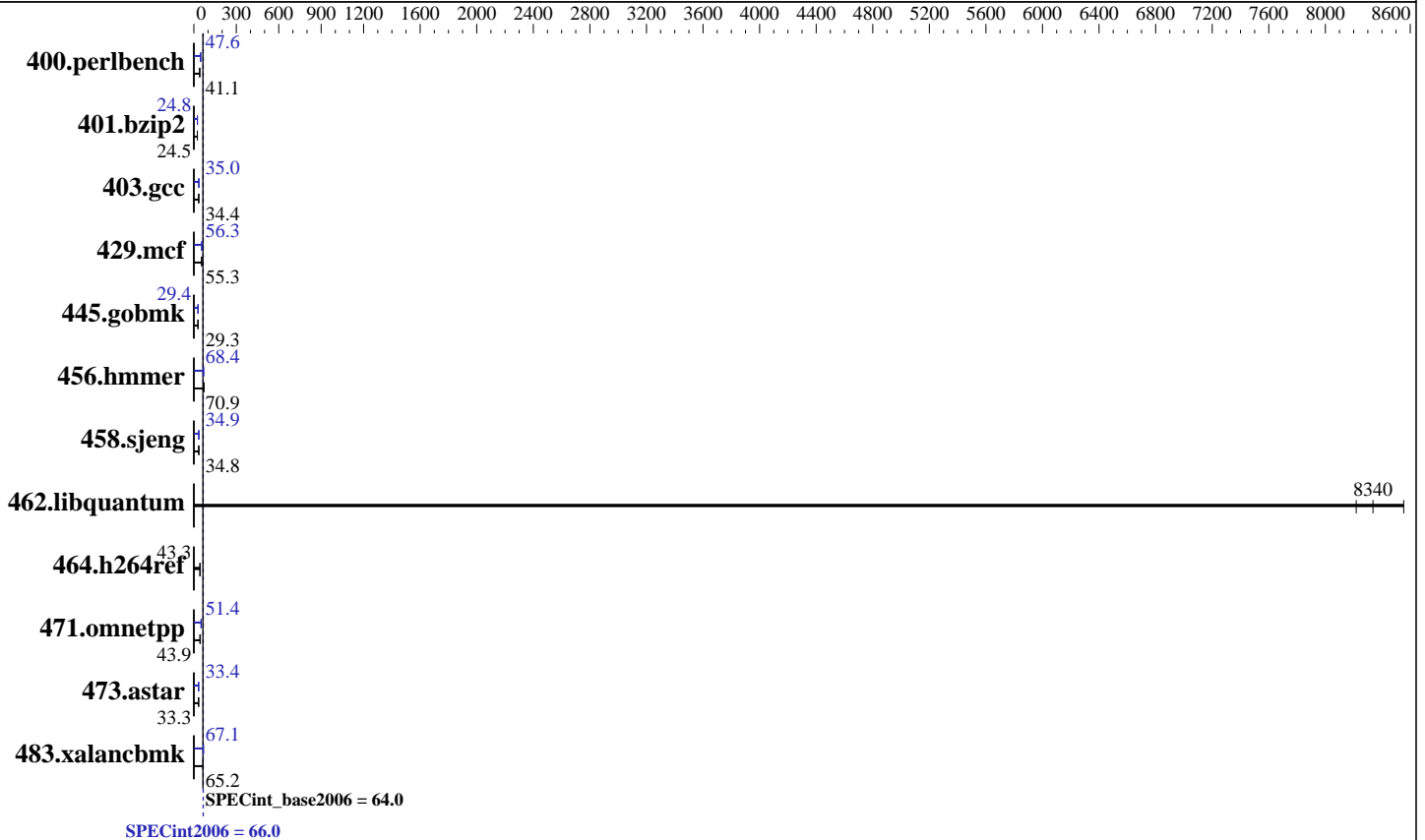
Test date: Jan-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Jan-2015

Tested by: Lenovo Group Limited

Software Availability: Sep-2014



Hardware

CPU Name: Intel Xeon E5-2699 v3
CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz: 2300
FPU: Integrated
CPU(s) enabled: 36 cores, 2 chips, 18 cores/chip
CPU(s) orderable: 1,2 chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 256 KB I+D on chip per core
L3 Cache: 45 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem: 1 x 1000 GB SATA
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.0 (Maipo)
 3.10.0-123.el7.x86_64
Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux
Auto Parallel: Yes
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V10.0



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint2006 = **66.0**

Lenovo System x3500 M5
(Intel Xeon E5-2699 v3, 2.30 GHz)

SPECint_base2006 = **64.0**

CPU2006 license: 9017

Test date: Jan-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Jan-2015

Tested by: Lenovo Group Limited

Software Availability: Sep-2014

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	236	41.5	238	41.0	<u>238</u>	<u>41.1</u>	207	47.3	<u>205</u>	<u>47.6</u>	205	47.7
401.bzip2	<u>393</u>	<u>24.5</u>	390	24.7	395	24.4	390	24.8	388	24.9	<u>389</u>	<u>24.8</u>
403.gcc	235	34.3	234	34.4	<u>234</u>	<u>34.4</u>	229	35.2	<u>230</u>	<u>35.0</u>	231	34.8
429.mcf	<u>165</u>	<u>55.3</u>	165	55.2	165	55.4	<u>162</u>	<u>56.3</u>	161	56.6	164	55.7
445.gobmk	357	29.4	359	29.2	<u>358</u>	<u>29.3</u>	<u>357</u>	<u>29.4</u>	357	29.4	357	29.4
456.hammer	132	70.9	<u>132</u>	<u>70.9</u>	131	71.1	137	68.3	136	68.6	<u>136</u>	<u>68.4</u>
458.sjeng	348	34.8	<u>348</u>	<u>34.8</u>	349	34.7	347	34.9	346	35.0	<u>347</u>	<u>34.9</u>
462.libquantum	2.52	8220	<u>2.49</u>	<u>8340</u>	2.42	8550	2.52	8220	<u>2.49</u>	<u>8340</u>	2.42	8550
464.h264ref	<u>511</u>	<u>43.3</u>	511	43.3	508	43.6	<u>511</u>	<u>43.3</u>	511	43.3	508	43.6
471.omnetpp	146	42.7	<u>142</u>	<u>43.9</u>	136	45.8	<u>122</u>	<u>51.4</u>	122	51.1	121	51.5
473.astar	<u>211</u>	<u>33.3</u>	210	33.4	211	33.3	209	33.6	<u>210</u>	<u>33.4</u>	212	33.1
483.xalancbmk	<u>106</u>	<u>65.2</u>	106	65.2	106	65.1	103	66.7	<u>103</u>	<u>67.1</u>	101	68.0

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

Submit Notes

The config file option 'submit' was used.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

BIOS setting:

Operating Mode set to "Efficiency-Favor Performance"

Intel Hyperthreading set to Disabled

COD Preference set to Disable

Early Snoop Preference set to Disable

Sysinfo program /root/SPECcpu_15/config/sysinfo.rev6914

\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1

running on x3500M5 Fri Jan 9 00:49:08 2015

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 E5-2699 v3 @ 2.30GHz

2 "physical id"s (chips)

36 "processors"

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

<http://www.spec.org/>

Page 2



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint2006 = 66.0

Lenovo System x3500 M5
(Intel Xeon E5-2699 v3, 2.30 GHz)

SPECint_base2006 = 64.0

CPU2006 license: 9017

Test date: Jan-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Jan-2015

Tested by: Lenovo Group Limited

Software Availability: Sep-2014

Platform Notes (Continued)

```

caution.)
  cpu cores : 18
  siblings  : 18
  physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
  physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
  cache size : 46080 KB

```

```

From /proc/meminfo
MemTotal:      263455364 kB
HugePages_Total:    0
Hugepagesize:    2048 kB

```

```

From /etc/*release* /etc/*version*
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.0 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.0"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.0 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server

```

```

uname -a:
Linux x3500M5 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57 EDT 2014 x86_64
x86_64 x86_64 GNU/Linux

```

run-level 3 Jan 9 00:45

```

SPEC is set to: /root/SPECcpu_15
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-root xfs  927G  9.4G  918G   2% /

```

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 IBM  -[TAE103F-1.02]- 12/05/2014
Memory:
 3x Hynix HMA42GR7MFR4N-TF 16 GB 2 rank 2133 MHz
13x Hynix HMA42GR7MFR4N-TFT1 16 GB 2 rank 2133 MHz
8x NO DIMM Unknown

```

(End of data from sysinfo program)



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint2006 = 66.0

Lenovo System x3500 M5
(Intel Xeon E5-2699 v3, 2.30 GHz)

SPECint_base2006 = 64.0

CPU2006 license: 9017

Test date: Jan-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Jan-2015

Tested by: Lenovo Group Limited

Software Availability: Sep-2014

General Notes

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

KMP_AFFINITY = "granularity=fine,compact"

LD_LIBRARY_PATH = "/root/SPECcpu_15/libs/32:/root/SPECcpu_15/libs/64:/root/SPECcpu_15/sh"

OMP_NUM_THREADS = "36"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/transparent_hugepage/enabled

Base Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64

401.bzip2: -DSPEC_CPU_LP64

403.gcc: -DSPEC_CPU_LP64

429.mcf: -DSPEC_CPU_LP64

445.gobmk: -DSPEC_CPU_LP64

456.hmmmer: -DSPEC_CPU_LP64

458.sjeng: -DSPEC_CPU_LP64

462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

464.h264ref: -DSPEC_CPU_LP64

471.omnetpp: -DSPEC_CPU_LP64

473.astar: -DSPEC_CPU_LP64

483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32

-Wl,-z,muldefs -L/sh -lsmartheap64



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint2006 = 66.0

Lenovo System x3500 M5
(Intel Xeon E5-2699 v3, 2.30 GHz)

SPECint_base2006 = 64.0

CPU2006 license: 9017

Test date: Jan-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Jan-2015

Tested by: Lenovo Group Limited

Software Availability: Sep-2014

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

445.gobmk: icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

C++ benchmarks (except as noted below):

icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32

401.bzip2: -DSPEC_CPU_LP64

403.gcc: -DSPEC_CPU_LP64

429.mcf: -DSPEC_CPU_LP64

456.hmmer: -DSPEC_CPU_LP64

458.sjeng: -DSPEC_CPU_LP64

462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

464.h264ref: -DSPEC_CPU_LP64

473.astar: -DSPEC_CPU_LP64

483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)

-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)

-opt-prefetch -ansi-alias

401.bzip2: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)

-O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32

-opt-prefetch -ansi-alias

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint2006 = 66.0

Lenovo System x3500 M5
(Intel Xeon E5-2699 v3, 2.30 GHz)

SPECint_base2006 = 64.0

CPU2006 license: 9017

Test date: Jan-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Jan-2015

Tested by: Lenovo Group Limited

Software Availability: Sep-2014

Peak Optimization Flags (Continued)

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc
-opt-malloc-options=3 -auto-ilp32

429.mcf: -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel
-opt-prefetch -auto-p32

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias

456.hmmr: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
-ansi-alias

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll4

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-ra-region-strategy=block -ansi-alias
-Wl,-z,muldefs -L/sh -lsmartheap

473.astar: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-auto-p32 -Wl,-z,muldefs -L/sh -lsmartheap64

483.xalancbmk: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-ansi-alias -Wl,-z,muldefs -L/sh -lsmartheap

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Lenovo-Platform-Flags-V1.2-HSW-B.20141230.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Lenovo-Platform-Flags-V1.2-HSW-B.20141230.xml>



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

Lenovo System x3500 M5
(Intel Xeon E5-2699 v3, 2.30 GHz)

SPECint2006 = 66.0

SPECint_base2006 = 64.0

CPU2006 license: 9017

Test sponsor: Lenovo Group Limited

Tested by: Lenovo Group Limited

Test date: Jan-2015

Hardware Availability: Jan-2015

Software Availability: Sep-2014

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 Mon Feb 23 16:32:16 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 27 January 2015.