



# SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Lenovo Group Limited

SPECint®2006 = **65.5**

Lenovo System x3550 M5  
(Intel Xeon E5-2667 v3, 3.20 GHz)

SPECint\_base2006 = **62.7**

CPU2006 license: 9017

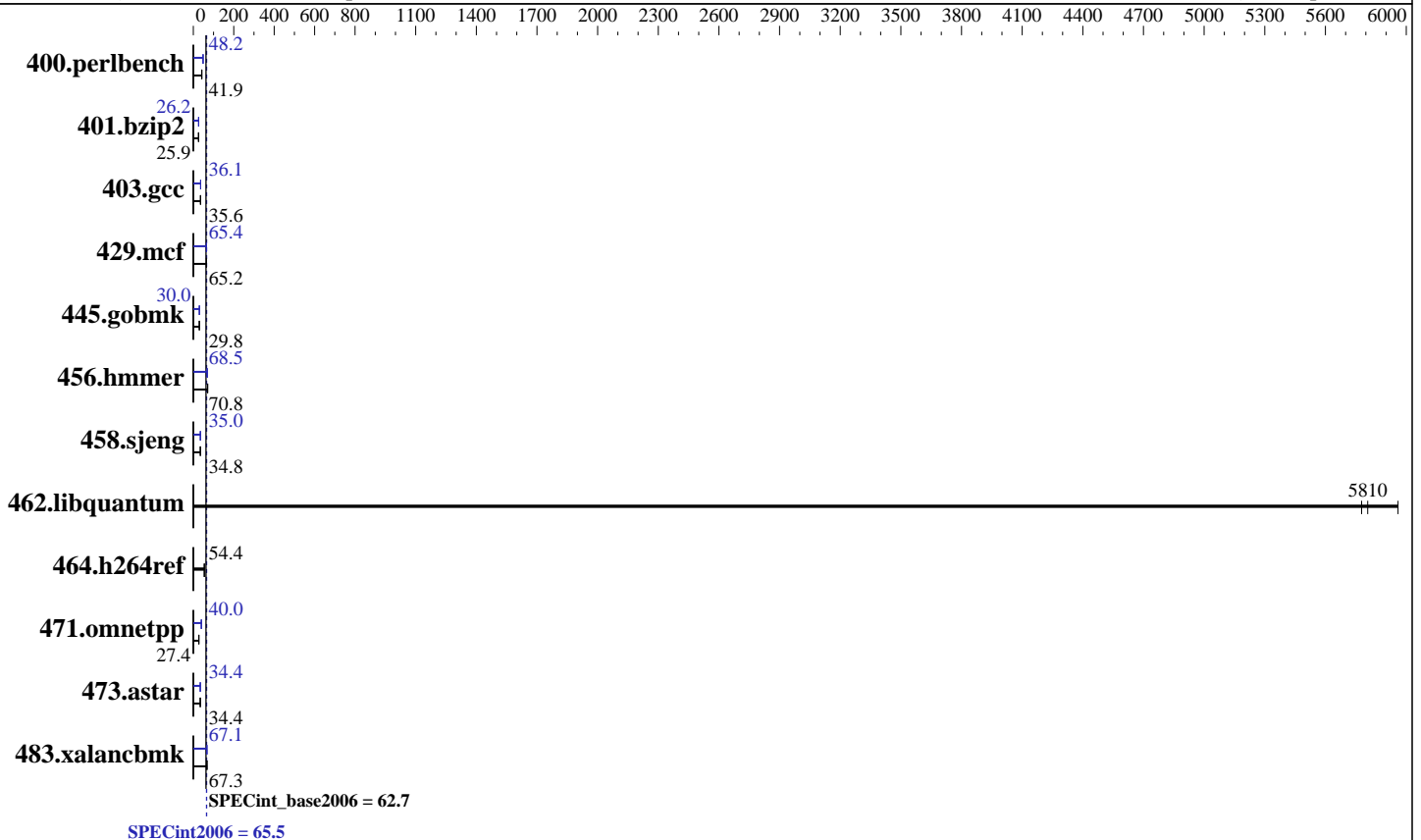
Test date: Jan-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Oct-2014

Tested by: Lenovo Group Limited

Software Availability: Sep-2014



### Hardware

CPU Name: Intel Xeon E5-2667 v3  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz  
 CPU MHz: 3200  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core  
 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: 20 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 300 GB SAS  
 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 = **65.5**

Lenovo System x3550 M5  
(Intel Xeon E5-2667 v3, 3.20 GHz)

SPECint\_base2006 = **62.7**

CPU2006 license: 9017

Test date: Jan-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Oct-2014

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	233	41.9	234	41.8	<u>233</u>	<u>41.9</u>	<u>203</u>	<u>48.2</u>	203	48.1	203	48.2
401.bzip2	<u>373</u>	<u>25.9</u>	374	25.8	373	25.9	368	26.2	369	26.2	<u>369</u>	<u>26.2</u>
403.gcc	<u>226</u>	<u>35.6</u>	226	35.6	226	35.6	<u>223</u>	<u>36.1</u>	224	36.0	223	36.1
429.mcf	140	65.4	<u>140</u>	<u>65.2</u>	141	64.9	<u>139</u>	<u>65.4</u>	139	65.5	142	64.2
445.gobmk	<u>352</u>	<u>29.8</u>	352	29.8	352	29.8	350	30.0	<u>350</u>	<u>30.0</u>	350	29.9
456.hammer	<u>132</u>	<u>70.8</u>	132	70.9	132	70.7	136	68.5	136	68.5	<u>136</u>	<u>68.5</u>
458.sjeng	347	34.9	<u>347</u>	<u>34.8</u>	348	34.8	346	35.0	346	35.0	<u>346</u>	<u>35.0</u>
462.libquantum	<u>3.57</u>	<u>5810</u>	3.59	5780	3.48	5960	<u>3.57</u>	<u>5810</u>	3.59	5780	3.48	5960
464.h264ref	407	54.4	405	54.6	<u>407</u>	<u>54.4</u>	407	54.4	405	54.6	<u>407</u>	<u>54.4</u>
471.omnetpp	<u>228</u>	<u>27.4</u>	229	27.3	228	27.4	<u>156</u>	<u>40.0</u>	156	40.2	160	39.0
473.astar	204	34.5	205	34.3	<u>204</u>	<u>34.4</u>	203	34.5	204	34.4	<u>204</u>	<u>34.4</u>
483.xalancbmk	102	67.3	103	67.1	<u>103</u>	<u>67.3</u>	103	67.1	<u>103</u>	<u>67.1</u>	103	67.1

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"

Sysinfo program /home/SPEC/config/sysinfo.rev6914

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

running on x3550m5 Sat Jan 31 18:34:14 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 E5-2667 v3 @ 3.20GHz

2 "physical id"s (chips)

32 "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 : 8

siblings : 16

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 = 65.5

Lenovo System x3550 M5  
(Intel Xeon E5-2667 v3, 3.20 GHz)

SPECint\_base2006 = 62.7

CPU2006 license: 9017

Test date: Jan-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Oct-2014

Tested by: Lenovo Group Limited

Software Availability: Sep-2014

### Platform Notes (Continued)

```
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7
cache size : 20480 KB
```

```
From /proc/meminfo
MemTotal:      263633068 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 x3550m5 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 30 17:20
```

```
SPEC is set to: /home/SPEC
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-root xfs   275G   69G  207G  25% /
```

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 -[TBE103AUS-1.01]- 10/23/2014

```
Memory:
14x Hynix 484D4134324752374D4652344E2D54462020 16 GB 2 rank 2133 MHz
2x Hynix 484D4134324752374D4652344E2D54465431 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 = 65.5**

Lenovo System x3550 M5  
(Intel Xeon E5-2667 v3, 3.20 GHz)

**SPECint\_base2006 = 62.7**

**CPU2006 license:** 9017

**Test date:** Jan-2015

**Test sponsor:** Lenovo Group Limited

**Hardware Availability:** Oct-2014

**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,scatter"

LD\_LIBRARY\_PATH = "/home/SPEC/libs/32:/home/SPEC/libs/64:/home/SPEC/sh"

OMP\_NUM\_THREADS = "16"

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 = 65.5**

Lenovo System x3550 M5  
(Intel Xeon E5-2667 v3, 3.20 GHz)

**SPECint\_base2006 = 62.7**

**CPU2006 license:** 9017

**Test date:** Jan-2015

**Test sponsor:** Lenovo Group Limited

**Hardware Availability:** Oct-2014

**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/

Page 5



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

**Lenovo Group Limited**

**SPECint2006 = 65.5**

Lenovo System x3550 M5  
(Intel Xeon E5-2667 v3, 3.20 GHz)

**SPECint\_base2006 = 62.7**

**CPU2006 license:** 9017

**Test date:** Jan-2015

**Test sponsor:** Lenovo Group Limited

**Hardware Availability:** Oct-2014

**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 x3550 M5  
(Intel Xeon E5-2667 v3, 3.20 GHz)

**SPECint2006 = 65.5**

**SPECint\_base2006 = 62.7**

**CPU2006 license:** 9017

**Test sponsor:** Lenovo Group Limited

**Tested by:** Lenovo Group Limited

**Test date:** Jan-2015

**Hardware Availability:** Oct-2014

**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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Wed Feb 25 11:29:15 2015 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 24 February 2015.