



SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint®_rate2006 = 224

Lenovo System x3100 M5
(Intel Xeon E3-1271 v3, 3.60 GHz)

SPECint_rate_base2006 = 215

CPU2006 license: 9017

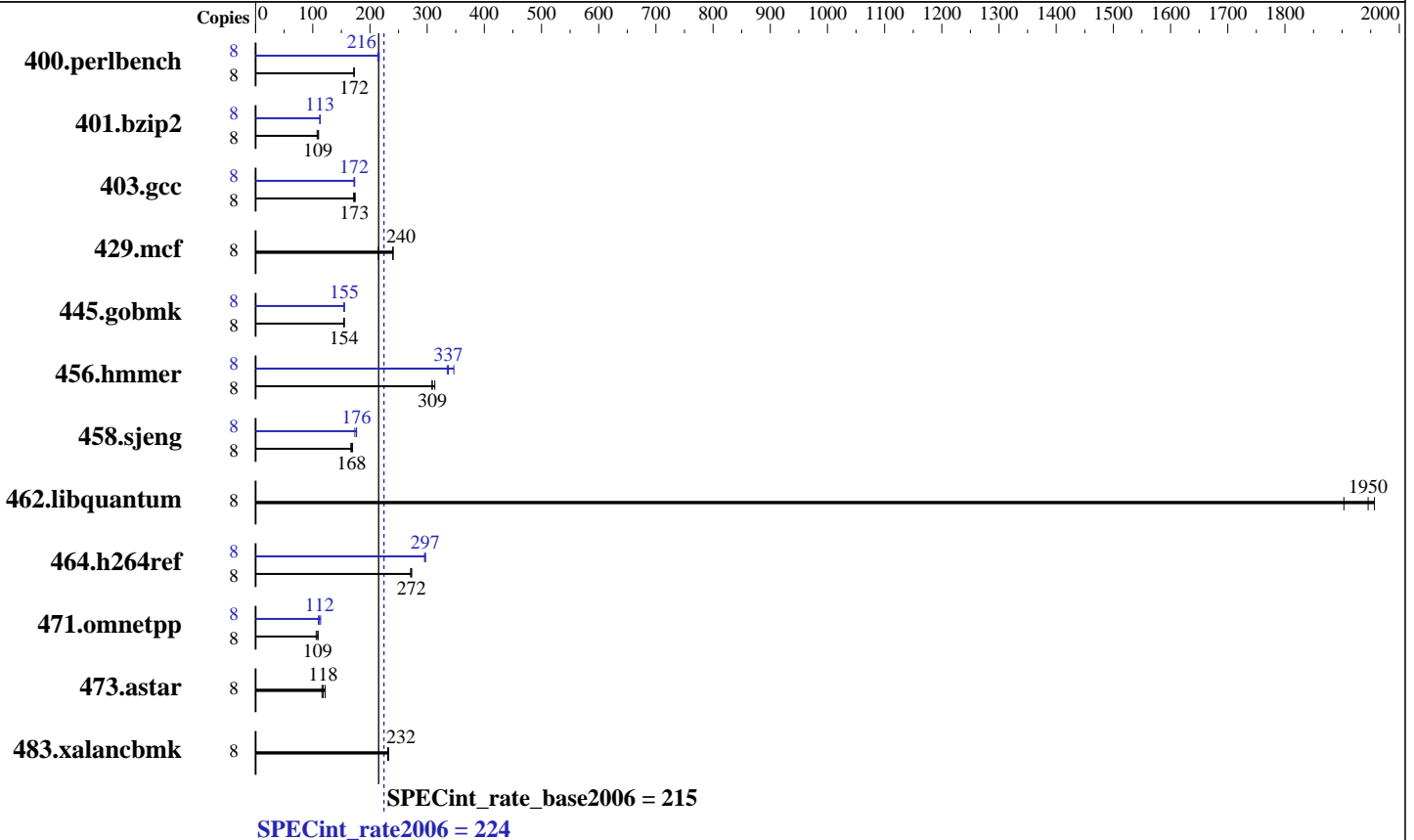
Test date: Mar-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Jun-2014

Tested by: Lenovo Group Limited

Software Availability: Sep-2014



Hardware

CPU Name: Intel Xeon E3-1271 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 4.00 GHz
 CPU MHz: 3600
 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: 16 GB (4 x 4 GB 2Rx8 PC3-12800U-13)
 Disk Subsystem: 1 x 500 GB SATA, 7200 RPM
 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: No
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V10.0



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 224

Lenovo System x3100 M5
(Intel Xeon E3-1271 v3, 3.60 GHz)

SPECint_rate_base2006 = 215

CPU2006 license: 9017

Test date: Mar-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Jun-2014

Tested by: Lenovo Group Limited

Software Availability: Sep-2014

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	<u>454</u>	<u>172</u>	454	172	454	172	8	366	214	<u>362</u>	<u>216</u>	362	216
401.bzip2	8	718	107	<u>706</u>	<u>109</u>	701	110	8	685	113	<u>686</u>	<u>113</u>	686	112
403.gcc	8	376	171	<u>372</u>	<u>173</u>	370	174	8	372	173	<u>373</u>	<u>172</u>	374	172
429.mcf	8	303	241	340	215	<u>304</u>	<u>240</u>	8	303	241	340	215	<u>304</u>	<u>240</u>
445.gobmk	8	<u>543</u>	<u>154</u>	541	155	543	154	8	<u>541</u>	<u>155</u>	540	155	543	154
456.hammer	8	238	313	<u>242</u>	<u>309</u>	242	309	8	223	335	215	347	<u>221</u>	<u>337</u>
458.sjeng	8	581	167	571	170	<u>578</u>	<u>168</u>	8	548	177	<u>549</u>	<u>176</u>	558	174
462.libquantum	8	87.1	1900	<u>85.2</u>	<u>1950</u>	84.7	1960	8	87.1	1900	<u>85.2</u>	<u>1950</u>	84.7	1960
464.h264ref	8	649	273	653	271	<u>650</u>	<u>272</u>	8	<u>597</u>	<u>297</u>	599	295	596	297
471.omnetpp	8	472	106	<u>461</u>	<u>109</u>	457	109	8	440	114	<u>448</u>	<u>112</u>	455	110
473.astar	8	<u>475</u>	<u>118</u>	462	122	484	116	8	<u>475</u>	<u>118</u>	462	122	484	116
483.xalancbmk	8	<u>238</u>	<u>232</u>	237	233	239	231	8	<u>238</u>	<u>232</u>	237	233	239	231

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"

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 x3100m5 Thu Mar 12 11:19:00 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 E3-1271 v3 @ 3.60GHz
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.)

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 224

Lenovo System x3100 M5
(Intel Xeon E3-1271 v3, 3.60 GHz)

SPECint_rate_base2006 = 215

CPU2006 license: 9017

Test date: Mar-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Jun-2014

Tested by: Lenovo Group Limited

Software Availability: Sep-2014

Platform Notes (Continued)

```
cpu cores : 4
siblings  : 8
physical 0: cores 0 1 2 3
cache size : 8192 KB
```

From /proc/meminfo

```
MemTotal:      16102880 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 x3100m5 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 Mar 12 01:39

SPEC is set to: /home/SPEC

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-root xfs  458G  13G  445G   3% /
```

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 -[J9E113EUS-1.02]- 04/25/2014

Memory:

4x Hynix/Hyundai HMT351U7EFR8A-PB 4 GB 2 rank 1600 MHz

(End of data from sysinfo program)

General Notes

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

LD_LIBRARY_PATH = "/home/SPEC/libs/32:/home/SPEC/libs/64:/home/SPEC/sh"

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 224

Lenovo System x3100 M5
(Intel Xeon E3-1271 v3, 3.60 GHz)

SPECint_rate_base2006 = 215

CPU2006 license: 9017

Test date: Mar-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Jun-2014

Tested by: Lenovo Group Limited

Software Availability: Sep-2014

General Notes (Continued)

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

C++ benchmarks:

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

Base Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32  
462.libquantum: -DSPEC_CPU_LINUX  
483.xalancbmk: -DSPEC_CPU_LINUX
```

Base Optimization Flags

C benchmarks:

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

C++ benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/sh -lsmartheap
```

Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):

```
icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

```
400.perlbench: icc -m64
```

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 224

Lenovo System x3100 M5
(Intel Xeon E3-1271 v3, 3.60 GHz)

SPECint_rate_base2006 = 215

CPU2006 license: 9017

Test date: Mar-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Jun-2014

Tested by: Lenovo Group Limited

Software Availability: Sep-2014

Peak Compiler Invocation (Continued)

401.bzip2: `icc -m64`

456.hmmer: `icc -m64`

458.sjeng: `icc -m64`

C++ benchmarks:

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

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`

401.bzip2: `-DSPEC_CPU_LP64`

456.hmmer: `-DSPEC_CPU_LP64`

458.sjeng: `-DSPEC_CPU_LP64`

462.libquantum: `-DSPEC_CPU_LINUX`

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)
-auto-ilp32`

401.bzip2: `-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 -auto-ilp32 -ansi-alias`

403.gcc: `-xCORE-AVX2 -ipo -O3 -no-prec-div`

429.mcf: `basepeak = yes`

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

456.hmmer: `-xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`

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 -auto-ilp32`

462.libquantum: `basepeak = yes`

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 224

Lenovo System x3100 M5
(Intel Xeon E3-1271 v3, 3.60 GHz)

SPECint_rate_base2006 = 215

CPU2006 license: 9017

Test date: Mar-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Jun-2014

Tested by: Lenovo Group Limited

Software Availability: Sep-2014

Peak Optimization Flags (Continued)

464.h264ref: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias

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)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/sh -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

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-A.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-A.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 Wed Apr 8 11:02:58 2015 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 7 April 2015.