



SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint®_rate2006 = 896

Lenovo System x3850 X6
(Intel Xeon E7-8893 v3, 3.20 GHz)

SPECint_rate_base2006 = 852

CPU2006 license: 9017

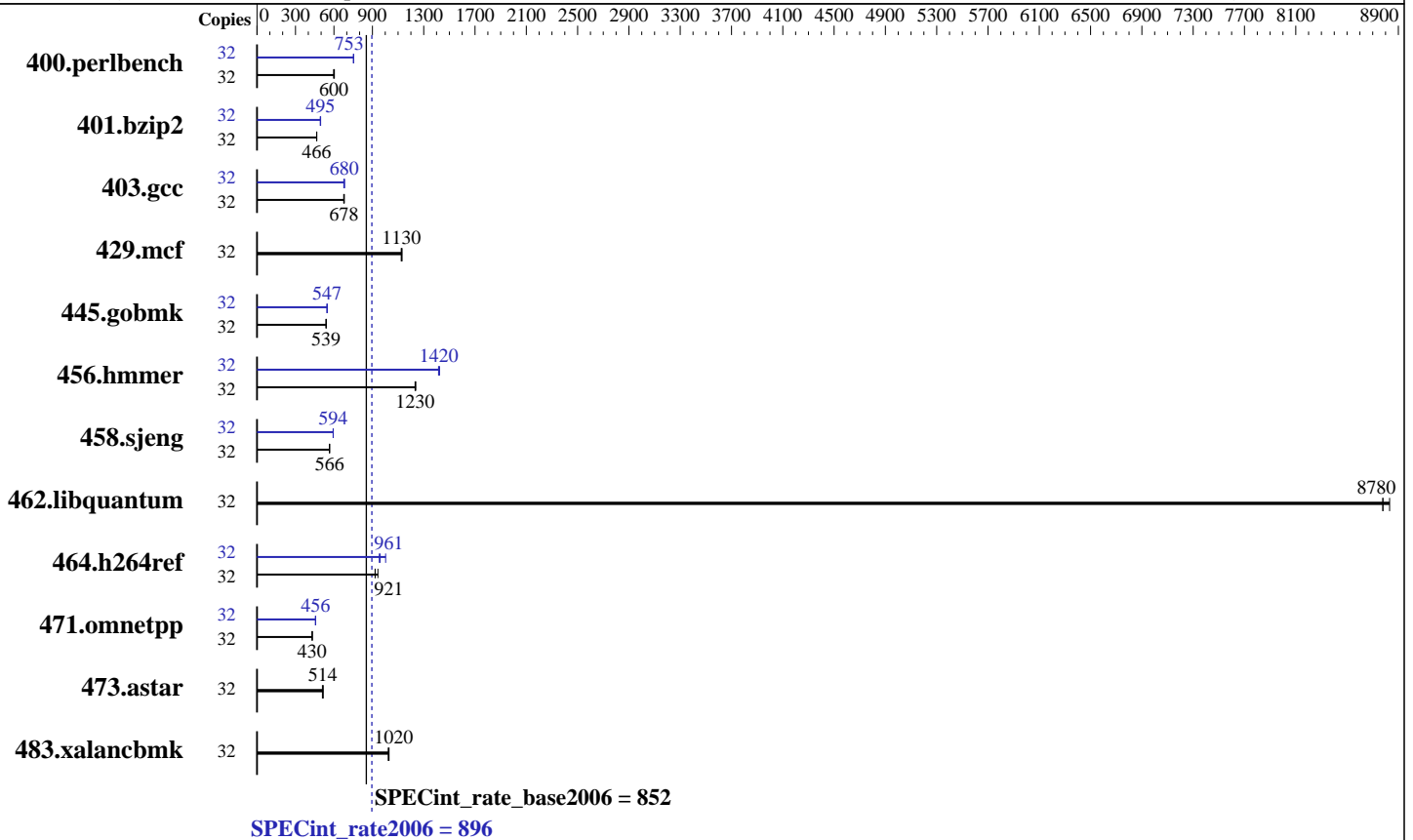
Test date: Jun-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Jul-2015

Tested by: Lenovo Group Limited

Software Availability: Oct-2014



Hardware

CPU Name: Intel Xeon E7-8893 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
 CPU MHz: 3200
 FPU: Integrated
 CPU(s) enabled: 16 cores, 4 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 2,4 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: 1 TB (64 x 16 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)
 Disk Subsystem: 1 x 400 GB SSD
 Other Hardware: None

Software

Operating System: SUSE Linus Enterprise Server 12 (x86_64)
 3.12.28-4-default
 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

Lenovo System x3850 X6
(Intel Xeon E7-8893 v3, 3.20 GHz)

SPECint_rate2006 = 896

SPECint_rate_base2006 = 852

CPU2006 license: 9017

Test sponsor: Lenovo Group Limited

Tested by: Lenovo Group Limited

Test date: Jun-2015

Hardware Availability: Jul-2015

Software Availability: Oct-2014

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	32	518	603	<u>521</u>	600	523	598	32	415	753	<u>415</u>	753	415	754
401.bzip2	32	664	465	<u>663</u>	466	663	466	32	626	494	<u>624</u>	495	622	496
403.gcc	32	381	677	378	681	380	678	32	<u>379</u>	680	377	683	381	677
429.mcf	32	259	1130	<u>259</u>	1130	258	1130	32	259	1130	<u>259</u>	1130	258	1130
445.gobmk	32	623	539	622	539	<u>623</u>	539	32	613	547	615	546	614	547
456.hammer	32	241	1240	<u>242</u>	1230	242	1230	32	211	1420	210	1420	<u>210</u>	1420
458.sjeng	32	685	565	<u>684</u>	566	684	566	32	<u>652</u>	594	652	594	652	594
462.libquantum	32	<u>75.5</u>	8780	75.5	8780	75.1	8830	32	<u>75.5</u>	8780	75.5	8780	75.1	8830
464.h264ref	32	751	943	<u>769</u>	921	769	921	32	<u>737</u>	961	706	1000	743	953
471.omnetpp	32	465	430	<u>465</u>	430	464	431	32	437	457	<u>438</u>	456	438	456
473.astar	32	436	515	440	510	<u>437</u>	514	32	436	515	440	510	<u>437</u>	514
483.xalancbmk	32	214	1030	215	1020	<u>215</u>	1020	32	214	1030	215	1020	<u>215</u>	1020

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"

Platform Notes

Operating Mode set to Custom in BIOS
Cstates disabled in BIOS
Sysinfo program /home/cpu2006/config/sysinfo.rev6914
\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1
running on linux-w3yn Mon Jun 15 14:04:55 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 E7-8893 v3 @ 3.20GHz
4 "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.)

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 896

Lenovo System x3850 X6
(Intel Xeon E7-8893 v3, 3.20 GHz)

SPECint_rate_base2006 = 852

CPU2006 license: 9017

Test date: Jun-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Jul-2015

Tested by: Lenovo Group Limited

Software Availability: Oct-2014

Platform Notes (Continued)

```

cpu cores : 4
siblings  : 8
physical 0: cores 1 5 16 20
physical 1: cores 1 5 16 20
physical 2: cores 1 5 16 20
physical 3: cores 1 5 16 20
cache size : 46080 KB

```

From /proc/meminfo

```

MemTotal:      1058536028 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

/usr/bin/lsb_release -d

SUSE Linux Enterprise Server 12

From /etc/*release* /etc/*version*

SuSE-release:

SUSE Linux Enterprise Server 12 (x86_64)

VERSION = 12

PATCHLEVEL = 0

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"

VERSION_ID="12"

PRETTY_NAME="SUSE Linux Enterprise Server 12"

ID="sles"

ANSI_COLOR="0;32"

CPE_NAME="cpe:/o:suse:sles:12"

uname -a:

```

Linux linux-w3yn 3.12.28-4-default #1 SMP Thu Sep 25 17:02:34 UTC 2014
(9879bd4) x86_64 x86_64 x86_64 GNU/Linux

```

run-level 5 Jun 15 11:23

SPEC is set to: /home/cpu2006

```

Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda4       xfs   331G  276G   55G  84% /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 IBM -[A9E121SUS-1.00]- 03/13/2015

Memory:

```

64x Hynix HMA42GR7MFR4N-TF 16 GB 2 rank 2133 MHz, configured at 1600 MHz
Continued on next page

```



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 896

Lenovo System x3850 X6
(Intel Xeon E7-8893 v3, 3.20 GHz)

SPECint_rate_base2006 = 852

CPU2006 license: 9017

Test date: Jun-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Jul-2015

Tested by: Lenovo Group Limited

Software Availability: Oct-2014

Platform Notes (Continued)

32x NO DIMM Unknown

(End of data from sysinfo program)

General Notes

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

LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"

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

Filesystem page cache cleared with:

echo 1> /proc/sys/vm/drop_caches

runspec command invoked through numactl i.e.:

numactl --interleave=all runspec <etc>

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

-opt-mem-layout-trans=3

C++ benchmarks:

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

-opt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh -lsmartheap



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 896

Lenovo System x3850 X6
(Intel Xeon E7-8893 v3, 3.20 GHz)

SPECint_rate_base2006 = 852

CPU2006 license: 9017

Test sponsor: Lenovo Group Limited

Tested by: Lenovo Group Limited

Test date: Jun-2015

Hardware Availability: Jul-2015

Software Availability: Oct-2014

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

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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint_rate2006 = 896

Lenovo System x3850 X6
(Intel Xeon E7-8893 v3, 3.20 GHz)

SPECint_rate_base2006 = 852

CPU2006 license: 9017

Test date: Jun-2015

Test sponsor: Lenovo Group Limited

Hardware Availability: Jul-2015

Tested by: Lenovo Group Limited

Software Availability: Oct-2014

Peak Optimization Flags (Continued)

429.mcf: basepeak = yes

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3

456.hmmr: -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

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/Default-Platform-Flags.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/Default-Platform-Flags.xml>



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Lenovo Group Limited

Lenovo System x3850 X6
(Intel Xeon E7-8893 v3, 3.20 GHz)

SPECint_rate2006 = 896

SPECint_rate_base2006 = 852

CPU2006 license: 9017

Test sponsor: Lenovo Group Limited

Tested by: Lenovo Group Limited

Test date: Jun-2015

Hardware Availability: Jul-2015

Software Availability: Oct-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 Aug 10 10:51:26 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 10 August 2015.