



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint®2006 = 45.8

IBM NeXtScale nx360 M4
(Intel Xeon E5-2630L v2, 2.40 GHz)

SPECint_base2006 = 43.2

CPU2006 license: 9017

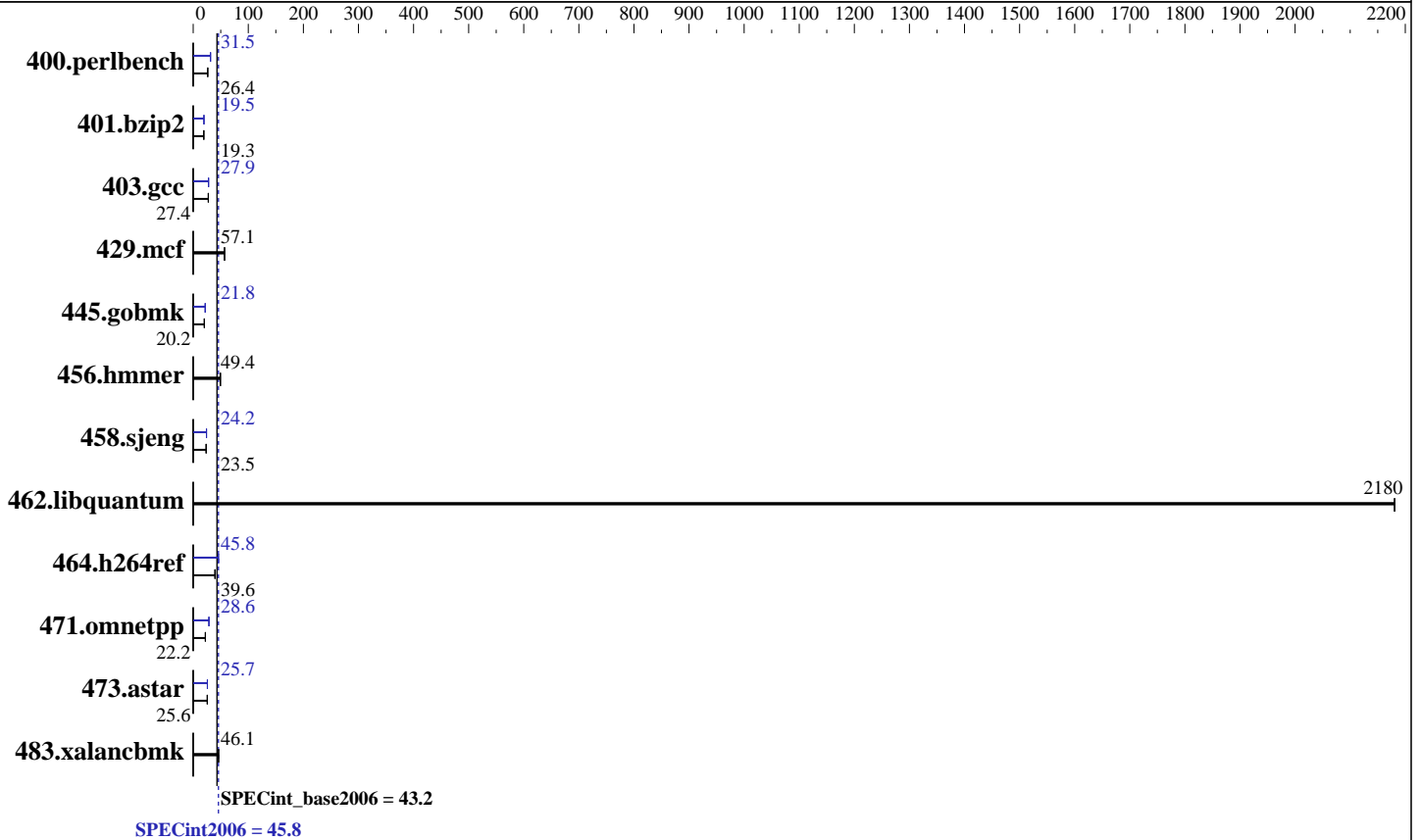
Test date: Oct-2014

Test sponsor: Lenovo Group Limited

Hardware Availability: Nov-2013

Tested by: IBM Corporation

Software Availability: Sep-2013



Hardware

CPU Name: Intel Xeon E5-2630L v2
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 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: 15 MB I+D on chip per chip
 Other Cache: None
 Memory: 128 GB (8 x 16 GB 2Rx4 PC3-14900R-13, ECC, running at 1600 MHz)
 Disk Subsystem: 2 x 250 GB SATA, 7200RPM, RAID 0
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
 2.6.32-358.el6.x86_64
 Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4
 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 2006-2014 Standard Performance Evaluation Corporation

Lenovo Group Limited

IBM NeXtScale nx360 M4
(Intel Xeon E5-2630L v2, 2.40 GHz)

SPECint2006 = 45.8

SPECint_base2006 = 43.2

CPU2006 license: 9017

Test sponsor: Lenovo Group Limited

Tested by: IBM Corporation

Test date: Oct-2014

Hardware Availability: Nov-2013

Software Availability: Sep-2013

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	370	26.4	370	26.4	370	26.4	311	31.4	310	31.5	310	31.5
401.bzip2	501	19.3	501	19.3	501	19.3	494	19.5	494	19.5	494	19.5
403.gcc	294	27.4	294	27.4	293	27.4	289	27.9	289	27.9	289	27.9
429.mcf	161	56.5	160	57.1	160	57.1	161	56.5	160	57.1	160	57.1
445.gobmk	519	20.2	520	20.2	520	20.2	481	21.8	480	21.8	480	21.8
456.hammer	189	49.5	189	49.3	189	49.4	189	49.5	189	49.3	189	49.4
458.sjeng	514	23.5	514	23.5	514	23.5	501	24.2	501	24.1	501	24.2
462.libquantum	9.50	2180	9.50	2180	9.50	2180	9.50	2180	9.50	2180	9.50	2180
464.h264ref	559	39.6	560	39.5	558	39.6	482	45.9	483	45.8	483	45.8
471.omnetpp	286	21.9	281	22.2	281	22.2	218	28.6	219	28.6	219	28.6
473.astar	275	25.5	275	25.6	274	25.6	271	25.9	273	25.7	273	25.7
483.xalancbmk	150	46.1	150	46.0	150	46.1	150	46.1	150	46.0	150	46.1

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"

Zone reclaim mode enabled with:

```
echo 1 > /proc/sys/vm/zone_reclaim_mode
```

Intel Idle Driver disabled with the following Linux kernel parameter in /etc/grub.conf:

```
intel_idle.max_cstate=0
```

Platform Notes

BIOS setting:

Operating Mode set to Maximum Performance

Hyper-Threading set to Disable

Sysinfo program /home/SPECcpu-20140116-ic14.0/config/sysinfo.rev6874

\$Rev: 6874 \$ \$Date:: 2013-11-20 #\$ 654bd3fcf53b06faef0efe54ed011998

running on nx360M4 Sun Oct 26 06:06:11 2014

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 E5-2630L v2 @ 2.40GHz
```

```
2 "physical id"s (chips)
```

```
12 "processors"
```

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

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

Page 2



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint2006 = 45.8

IBM NeXtScale nx360 M4
(Intel Xeon E5-2630L v2, 2.40 GHz)

SPECint_base2006 = 43.2

CPU2006 license: 9017

Test date: Oct-2014

Test sponsor: Lenovo Group Limited

Hardware Availability: Nov-2013

Tested by: IBM Corporation

Software Availability: Sep-2013

Platform Notes (Continued)

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 : 6
siblings  : 6
physical 0: cores 0 1 2 3 4 5
physical 1: cores 0 1 2 3 4 5
cache size : 15360 KB
```

```
From /proc/meminfo
MemTotal:      132090624 kB
HugePages_Total:      0
Hugepagesize:      2048 kB
```

```
/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.4 (Santiago)
```

```
From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

```
uname -a:
Linux nx360M4 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013
x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Oct 26 06:00
```

```
SPEC is set to: /home/SPECcpu-20140116-ic14.0
Filesystem      Type      Size Used Avail Use% Mounted on
/dev/mapper/vg_nx360m4-lv_home
                ext4      403G  14G  370G   4% /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 -[FHE107NUS-1.20]- 06/03/2014

Memory:
8x Samsung M393B2G70QH0-CMA 16 GB 2 rank 1866 MHz, configured at 1600 MHz

(End of data from sysinfo program)

General Notes

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

KMP_AFFINITY = "granularity=fine,scatter"

LD_LIBRARY_PATH = "/home/SPECcpu-20140116-ic14.0/libs/32:/home/SPECcpu-20140116-ic14.0/libs/64:/home/SPECcpu-20140116-ic14.0/sh"

OMP_NUM_THREADS = "12"

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint2006 = 45.8

IBM NeXtScale nx360 M4
(Intel Xeon E5-2630L v2, 2.40 GHz)

SPECint_base2006 = 43.2

CPU2006 license: 9017

Test date: Oct-2014

Test sponsor: Lenovo Group Limited

Hardware Availability: Nov-2013

Tested by: IBM Corporation

Software Availability: Sep-2013

General Notes (Continued)

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

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.hmmer: -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:
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -Wl,-z,muldefs
-L/sh -lsmartheap64

Base Other Flags

C benchmarks:

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint2006 = 45.8

IBM NeXtScale nx360 M4
(Intel Xeon E5-2630L v2, 2.40 GHz)

SPECint_base2006 = 43.2

CPU2006 license: 9017

Test date: Oct-2014

Test sponsor: Lenovo Group Limited

Hardware Availability: Nov-2013

Tested by: IBM Corporation

Software Availability: Sep-2013

Base Other Flags (Continued)

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32

445.gobmk: icc -m32

464.h264ref: icc -m32

C++ benchmarks (except as noted below):

icpc -m64

471.omnetpp: icpc -m32

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

473.astar: -DSPEC_CPU_LP64

483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xAVX(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: -xAVX(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

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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Lenovo Group Limited

SPECint2006 = 45.8

IBM NeXtScale nx360 M4
(Intel Xeon E5-2630L v2, 2.40 GHz)

SPECint_base2006 = 43.2

CPU2006 license: 9017

Test date: Oct-2014

Test sponsor: Lenovo Group Limited

Hardware Availability: Nov-2013

Tested by: IBM Corporation

Software Availability: Sep-2013

Peak Optimization Flags (Continued)

429.mcf: basepeak = yes

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

456.hmmmer: basepeak = yes

458.sjeng: -xAVX(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: -xAVX(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: -xAVX(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.aster: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh -lsmartheap64

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-ic14.0-official-linux64.20140128.html>

<http://www.spec.org/cpu2006/flags/IBM-Platform-Flags-V1.2-IVB-C.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>

<http://www.spec.org/cpu2006/flags/IBM-Platform-Flags-V1.2-IVB-C.xml>



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Lenovo Group Limited

IBM NeXtScale nx360 M4
(Intel Xeon E5-2630L v2, 2.40 GHz)

SPECint2006 = 45.8

SPECint_base2006 = 43.2

CPU2006 license: 9017

Test sponsor: Lenovo Group Limited

Tested by: IBM Corporation

Test date: Oct-2014

Hardware Availability: Nov-2013

Software Availability: Sep-2013

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 Nov 18 16:33:04 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 18 November 2014.