



SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECint®_rate2006 = 1380

Express5800/R120f-2M (Intel Xeon E5-2699 v3)

SPECint_rate_base2006 = 1340

CPU2006 license: 9006

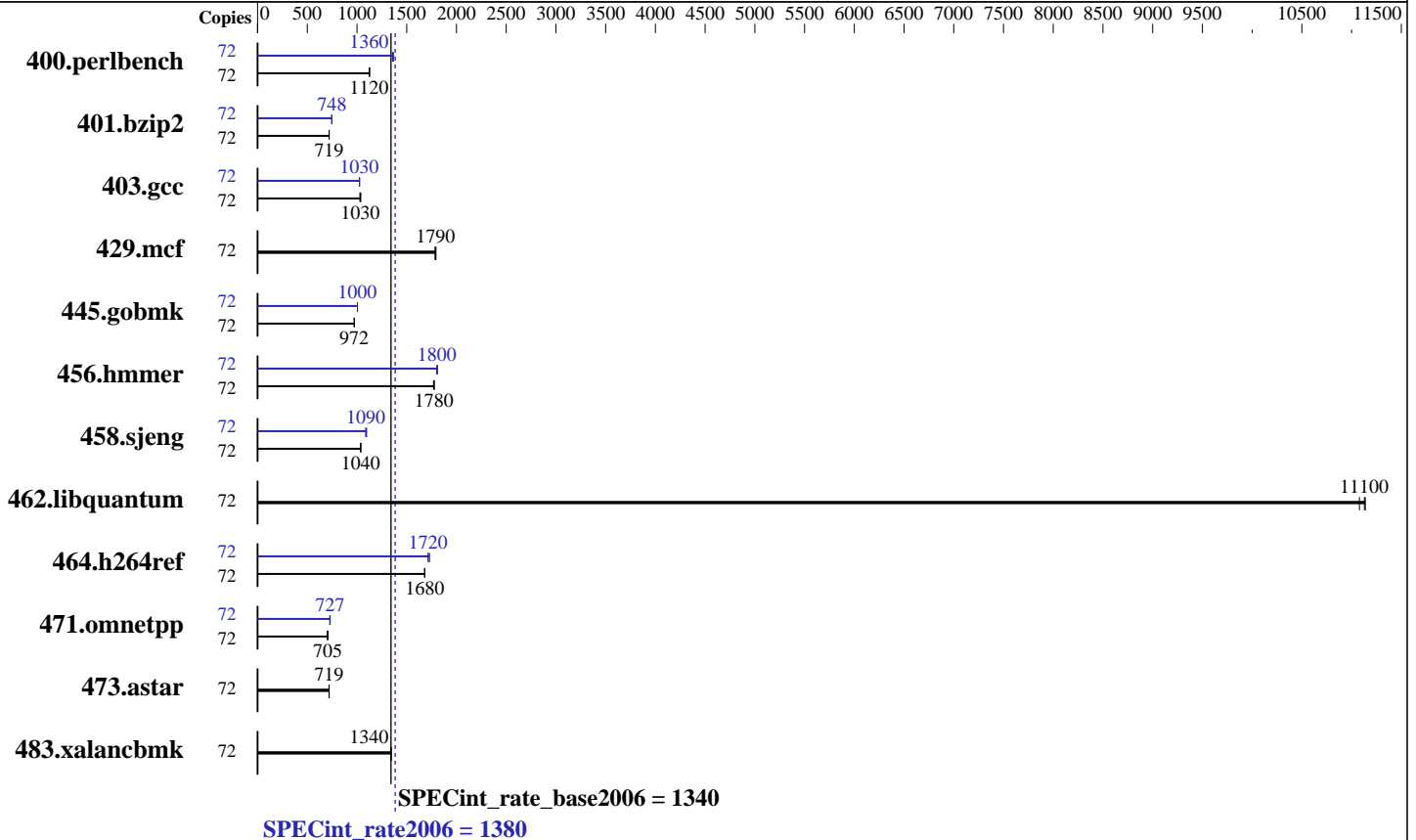
Test date: Sep-2014

Test sponsor: NEC Corporation

Hardware Availability: Feb-2015

Tested by: NEC Corporation

Software Availability: May-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, 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: 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 250 GB SATA, 7200 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)
 Kernel 2.6.32-431.17.1.el6.x86_64
 Compiler: C/C++: Version 14.0.2.144 of Intel C++ Studio XE for Linux
 Auto Parallel: No
 File System: ext4
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V8.1



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECint_rate2006 = 1380

Express5800/R120f-2M (Intel Xeon E5-2699 v3)

SPECint_rate_base2006 = 1340

CPU2006 license: 9006

Test date: Sep-2014

Test sponsor: NEC Corporation

Hardware Availability: Feb-2015

Tested by: NEC Corporation

Software Availability: May-2014

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	72	624	1130	<u>626</u>	<u>1120</u>	627	1120	72	518	1360	514	1370	<u>518</u>	<u>1360</u>
401.bzip2	72	<u>966</u>	<u>719</u>	966	719	965	720	72	933	744	<u>928</u>	<u>748</u>	928	748
403.gcc	72	558	1040	<u>560</u>	<u>1030</u>	563	1030	72	565	1030	566	1020	<u>565</u>	<u>1030</u>
429.mcf	72	<u>367</u>	<u>1790</u>	366	1790	368	1780	72	<u>367</u>	<u>1790</u>	366	1790	368	1780
445.gobmk	72	777	972	<u>777</u>	<u>972</u>	776	974	72	752	1000	752	1000	<u>752</u>	<u>1000</u>
456.hammer	72	<u>378</u>	<u>1780</u>	380	1770	378	1780	72	<u>372</u>	<u>1800</u>	371	1810	373	1800
458.sjeng	72	<u>840</u>	<u>1040</u>	839	1040	842	1040	72	794	1100	800	1090	<u>800</u>	<u>1090</u>
462.libquantum	72	135	11100	<u>134</u>	<u>11100</u>	134	11100	72	135	11100	<u>134</u>	<u>11100</u>	134	11100
464.h264ref	72	<u>948</u>	<u>1680</u>	947	1680	949	1680	72	929	1710	<u>928</u>	<u>1720</u>	921	1730
471.omnetpp	72	641	702	<u>639</u>	<u>705</u>	635	708	72	619	727	<u>619</u>	<u>727</u>	616	730
473.astar	72	702	720	<u>703</u>	<u>719</u>	704	718	72	702	720	<u>703</u>	<u>719</u>	704	718
483.xalancbmk	72	371	1340	370	1340	<u>371</u>	<u>1340</u>	72	371	1340	370	1340	<u>371</u>	<u>1340</u>

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

BIOS Settings:
Power Management Policy: Custom
Energy Performance: Performance
Patrol Scrub: Disabled
Demand Scrub: Disabled
Cluster on Die: Enabled

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"

The Express5800/R120f-1M (Intel Xeon E5-2699 v3) and the Express5800/R120f-2M (Intel Xeon E5-2699 v3) models are electronically equivalent. The results have been measured on the Express5800/R120f-2M (Intel Xeon E5-2699 v3) model.

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECint_rate2006 = 1380

Express5800/R120f-2M (Intel Xeon E5-2699 v3)

SPECint_rate_base2006 = 1340

CPU2006 license: 9006

Test date: Sep-2014

Test sponsor: NEC Corporation

Hardware Availability: Feb-2015

Tested by: NEC Corporation

Software Availability: May-2014

General Notes (Continued)

Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_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

C++ benchmarks:
icpc -m32

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

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECint_rate2006 = 1380

Express5800/R120f-2M (Intel Xeon E5-2699 v3)

SPECint_rate_base2006 = 1340

CPU2006 license: 9006

Test date: Sep-2014

Test sponsor: NEC Corporation

Hardware Availability: Feb-2015

Tested by: NEC Corporation

Software Availability: May-2014

Peak Compiler Invocation (Continued)

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32

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 -opt-mem-layout-trans=3

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)
-unroll14 -auto-ilp32

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECint_rate2006 = 1380

Express5800/R120f-2M (Intel Xeon E5-2699 v3)

SPECint_rate_base2006 = 1340

CPU2006 license: 9006

Test date: Sep-2014

Test sponsor: NEC Corporation

Hardware Availability: Feb-2015

Tested by: NEC Corporation

Software Availability: May-2014

Peak Optimization Flags (Continued)

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

<http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-120f-RevB.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/NEC-Platform-Settings-V1.2-120f-RevB.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 Thu Feb 5 18:18:05 2015 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 2 December 2014.