



SPEC[®] CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECint[®]_rate2006 = 1950

Express5800/A2040b (Intel Xeon E7-4870 v2)

SPECint_rate_base2006 = 1890

CPU2006 license: 9006

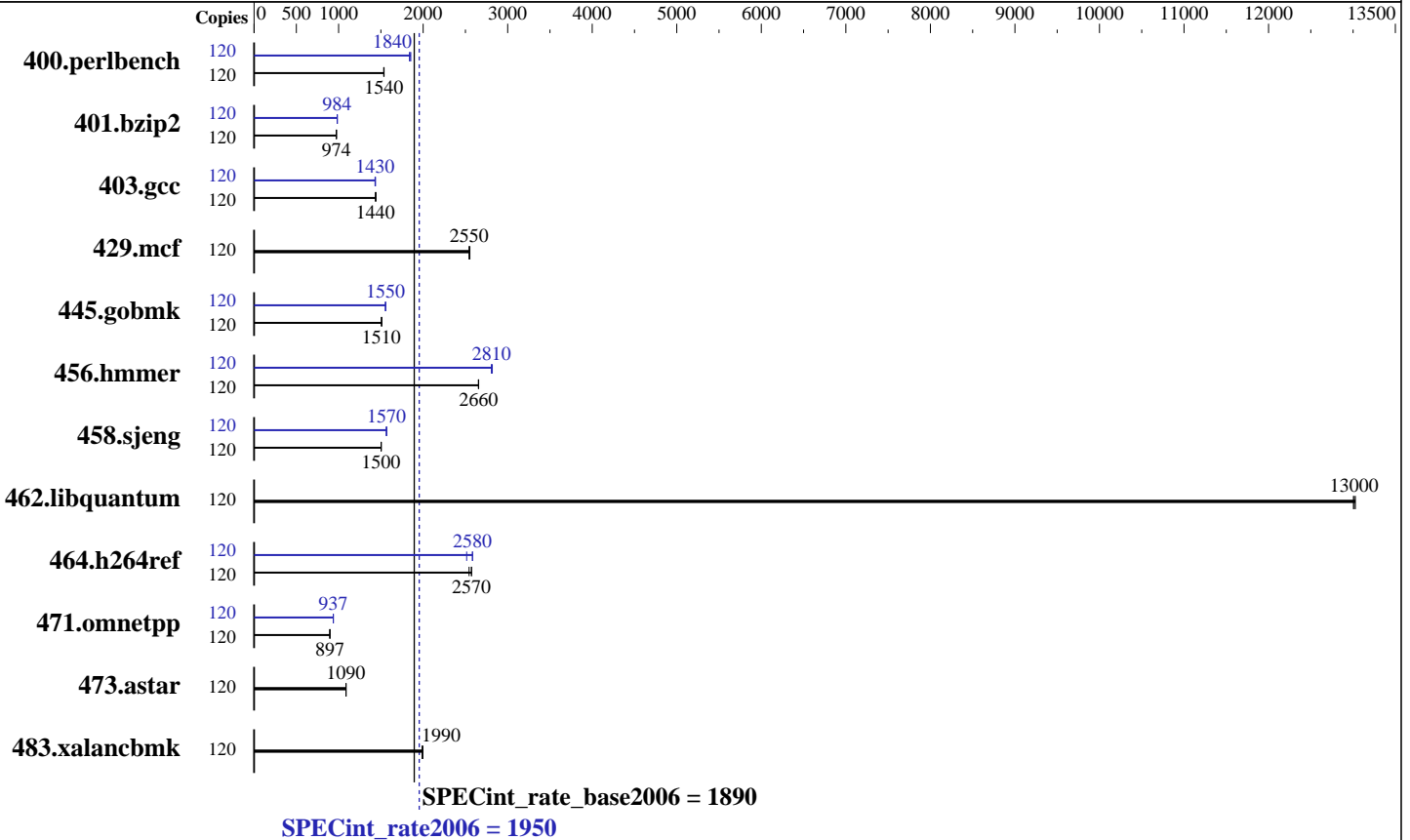
Test date: Mar-2014

Test sponsor: NEC Corporation

Hardware Availability: Mar-2014

Tested by: NEC Corporation

Software Availability: Oct-2013



Hardware

CPU Name: Intel Xeon E7-4870 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 2.90 GHz
 CPU MHz: 2300
 FPU: Integrated
 CPU(s) enabled: 60 cores, 4 chips, 15 cores/chip, 2 threads/core
 CPU(s) orderable: 2,3,4 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: 30 MB I+D on chip per chip
 Other Cache: None
 Memory: 1 TB (64 x 16 GB 2Rx4 PC3L-12800R-11, ECC, running at 1333 MHz and CL9)
 Disk Subsystem: 1 x 300 GB SAS, 10000 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
 Kernel 2.6.32-358.23.2.el6.x86_64
 Compiler: C/C++: Version 14.0.1.106 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 Multi-Core V10.01



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECint_rate2006 = 1950

Express5800/A2040b (Intel Xeon E7-4870 v2)

SPECint_rate_base2006 = 1890

CPU2006 license: 9006

Test date: Mar-2014

Test sponsor: NEC Corporation

Hardware Availability: Mar-2014

Tested by: NEC Corporation

Software Availability: Oct-2013

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	120	762	1540	765	1530	<u>763</u>	<u>1540</u>	120	632	1850	638	1840	<u>636</u>	<u>1840</u>
401.bzip2	120	1191	972	1189	974	<u>1189</u>	<u>974</u>	120	<u>1177</u>	<u>984</u>	1178	983	1177	984
403.gcc	120	670	1440	<u>672</u>	<u>1440</u>	673	1440	120	<u>673</u>	<u>1430</u>	673	1440	675	1430
429.mcf	120	429	2550	<u>430</u>	<u>2550</u>	430	2540	120	429	2550	<u>430</u>	<u>2550</u>	430	2540
445.gobmk	120	835	1510	<u>835</u>	<u>1510</u>	833	1510	120	<u>810</u>	<u>1550</u>	808	1560	810	1550
456.hammer	120	422	2650	421	2660	<u>422</u>	<u>2660</u>	120	399	2810	397	2820	<u>399</u>	<u>2810</u>
458.sjeng	120	<u>966</u>	<u>1500</u>	965	1500	966	1500	120	926	1570	929	1560	<u>926</u>	<u>1570</u>
462.libquantum	120	<u>191</u>	<u>13000</u>	191	13000	191	13000	120	<u>191</u>	<u>13000</u>	191	13000	191	13000
464.h264ref	120	<u>1033</u>	<u>2570</u>	1032	2570	1044	2540	120	1027	2580	<u>1028</u>	<u>2580</u>	1056	2510
471.omnetpp	120	<u>836</u>	<u>897</u>	837	896	836	897	120	800	938	<u>800</u>	<u>937</u>	800	937
473.astar	120	<u>774</u>	<u>1090</u>	774	1090	775	1090	120	<u>774</u>	<u>1090</u>	774	1090	775	1090
483.xalancbmk	120	<u>416</u>	<u>1990</u>	415	2000	416	1990	120	<u>416</u>	<u>1990</u>	415	2000	416	1990

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"
Zone reclaim mode enabled with:
echo 1 > /proc/sys/vm/zone_reclaim_mode

Platform Notes

BIOS Settings:
Memory RAS Mode: Independent mode

General Notes

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

LD_LIBRARY_PATH = */opt/SmartHeap_10mc/lib:/opt/SmartHeap_10mc/lib64:/opt/intel/composer_xe_2013_sp1.1.106/compiler/lib/ia32:/opt/intel/composer_xe_2013_sp1.1.106/compiler/lib/intel64*

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>



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECint_rate2006 = 1950

Express5800/A2040b (Intel Xeon E7-4870 v2)

SPECint_rate_base2006 = 1890

CPU2006 license: 9006

Test date: Mar-2014

Test sponsor: NEC Corporation

Hardware Availability: Mar-2014

Tested by: NEC Corporation

Software Availability: Oct-2013

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:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -L/opt/SmartHeap_10mc/lib -lsmarheap

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECint_rate2006 = 1950

Express5800/A2040b (Intel Xeon E7-4870 v2)

SPECint_rate_base2006 = 1890

CPU2006 license: 9006

Test date: Mar-2014

Test sponsor: NEC Corporation

Hardware Availability: Mar-2014

Tested by: NEC Corporation

Software Availability: Oct-2013

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: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
 -ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2(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/opt/SmartHeap_10mc/lib -lsmartheap

473.astar: basepeak = yes

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECint_rate2006 = 1950

Express5800/A2040b (Intel Xeon E7-4870 v2)

SPECint_rate_base2006 = 1890

CPU2006 license: 9006

Test date: Mar-2014

Test sponsor: NEC Corporation

Hardware Availability: Mar-2014

Tested by: NEC Corporation

Software Availability: Oct-2013

Peak Optimization Flags (Continued)

483.xalanbmk: 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-A2040b-RevA.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-A2040b-RevA.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 Jul 24 22:37:26 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 8 April 2014.