



SPEC[®] CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM Flex System x480 X6
(Intel Xeon E7-4850 v2, 2.30 GHz)

SPECint[®]_rate2006 = 1580

SPECint_rate_base2006 = 1530

CPU2006 license: 11

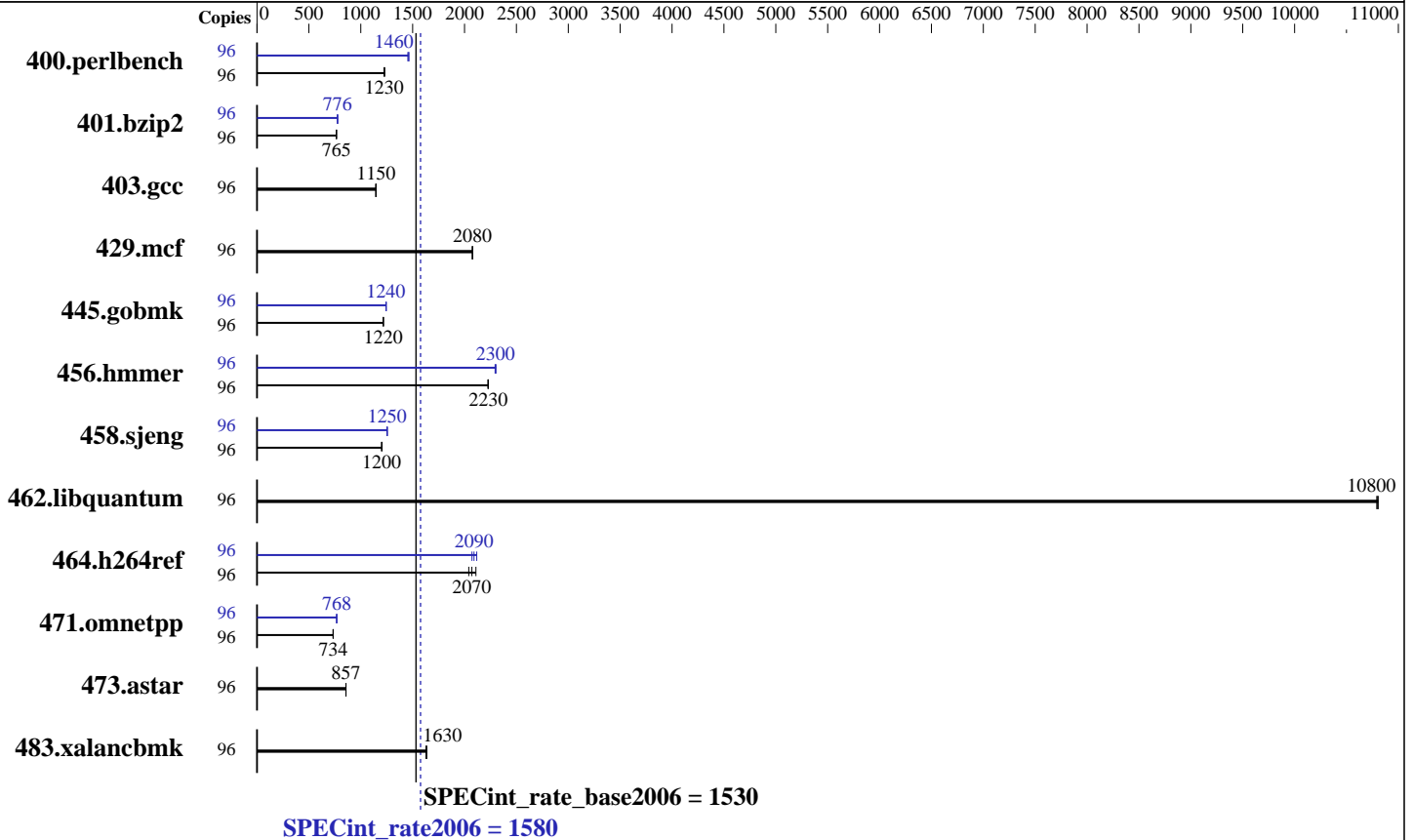
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Aug-2014

Hardware Availability: Jun-2014

Software Availability: Nov-2013



Hardware

CPU Name: Intel Xeon E7-4850 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
 CPU MHz: 2300
 FPU: Integrated
 CPU(s) enabled: 48 cores, 4 chips, 12 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: 24 MB I+D on chip per chip
 Other Cache: None
 Memory: 1 TB (64 x 16 GB 2Rx4 PC3L-12800R-11, ECC, running at 1067 MHz)
 Disk Subsystem: 1 x 300 GB SAS, 10000 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)
 2.6.32-431.el6.x86_64
 Compiler: C/C++: Version 14.0.0.080 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 V10.0



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM Flex System x480 X6
(Intel Xeon E7-4850 v2, 2.30 GHz)

SPECint_rate2006 = 1580

SPECint_rate_base2006 = 1530

CPU2006 license: 11

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Aug-2014

Hardware Availability: Jun-2014

Software Availability: Nov-2013

Results Table

Benchmark	Base						Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	96	765	1230	765	1230	762	1230	96	641	1460	642	1460	645	1450
401.bzip2	96	1209	766	1211	765	1211	765	96	1194	776	1191	778	1196	774
403.gcc	96	673	1150	676	1140	673	1150	96	673	1150	676	1140	673	1150
429.mcf	96	422	2080	422	2080	422	2080	96	422	2080	422	2080	422	2080
445.gobmk	96	827	1220	827	1220	827	1220	96	809	1250	810	1240	810	1240
456.hammer	96	402	2230	402	2230	402	2230	96	390	2290	389	2300	390	2300
458.sjeng	96	967	1200	967	1200	964	1210	96	928	1250	926	1250	924	1260
462.libquantum	96	184	10800	184	10800	184	10800	96	184	10800	184	10800	184	10800
464.h264ref	96	1041	2040	1007	2110	1026	2070	96	1025	2070	1003	2120	1016	2090
471.omnetpp	96	817	734	818	733	818	734	96	780	769	781	768	782	767
473.astar	96	787	857	786	857	786	858	96	787	857	786	857	786	858
483.xalancbmk	96	406	1630	405	1640	407	1630	96	406	1630	405	1640	407	1630

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 Maximum Performance in BIOS
Memory Data Scrambling Disabled
Patrol Scrub Disabled
Sysinfo program /cpu2006.1.2_14.0_aug2013/config/sysinfo.rev6818
\$Rev: 6818 \$ \$Date:: 2012-07-17 # \$ e86d102572650a6e4d596a3cee98f191
running on newport-rhel6.5 Thu Aug 28 21:46:51 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 E7-4850 v2 @ 2.30GHz
4 "physical id"s (chips)
96 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with
Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

SPECint_rate2006 = 1580

IBM Flex System x480 X6
(Intel Xeon E7-4850 v2, 2.30 GHz)

SPECint_rate_base2006 = 1530

CPU2006 license: 11

Test date: Aug-2014

Test sponsor: IBM Corporation

Hardware Availability: Jun-2014

Tested by: IBM Corporation

Software Availability: Nov-2013

Platform Notes (Continued)

```

caution.)
  cpu cores : 12
  siblings  : 24
  physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
  physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
  physical 2: cores 0 1 2 3 4 5 8 9 10 11 12 13
  physical 3: cores 0 1 2 3 4 5 8 9 10 11 12 13
cache size : 24576 KB

```

```

From /proc/meminfo
MemTotal:      1058506284 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

```

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.5 (Santiago)

```

```

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

```

```

uname -a:
Linux newport-rhel6.5 2.6.32-431.el6.x86_64 #1 SMP Sun Nov 10 22:19:54 EST
2013 x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Aug 28 21:45 last=5

```

SPEC is set to: /cpu2006.1.2_14.0_aug2013
Filesystem                Type      Size   Used Avail Use% Mounted on
/dev/mapper/vg_newportrhel6-lv_root ext4      265G   29G  223G  12% /

```

```

Additional information from dmidecode:
BIOS IBM  -[N2E107JUS-1.00]- 05/03/2014
Memory:
 32x Hynix HMT42GR7AFR4A-PB 16 GB 1067 MHz 2 rank
 32x NO DIMM Unknown
 32x Samsung M393B2G70QH0-YK0 16 GB 1067 MHz 2 rank

```

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/cpu2006.1.2_14.0_aug2013/libs/32:/cpu2006.1.2_14.0_aug2013/libs/64:/cpu2006.1.2_14.0_aug2013/sh"

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
Filesystem page cache cleared with:

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM Flex System x480 X6
(Intel Xeon E7-4850 v2, 2.30 GHz)

SPECint_rate2006 = 1580

SPECint_rate_base2006 = 1530

CPU2006 license: 11

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Aug-2014

Hardware Availability: Jun-2014

Software Availability: Nov-2013

General Notes (Continued)

```
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:
-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/sh -lsmartheap

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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM Flex System x480 X6
(Intel Xeon E7-4850 v2, 2.30 GHz)

SPECint_rate2006 = 1580

SPECint_rate_base2006 = 1530

CPU2006 license: 11

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Aug-2014

Hardware Availability: Jun-2014

Software Availability: Nov-2013

Peak Compiler Invocation (Continued)

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: `-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: `basepeak = yes`

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`

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM Flex System x480 X6
(Intel Xeon E7-4850 v2, 2.30 GHz)

SPECint_rate2006 = 1580

SPECint_rate_base2006 = 1530

CPU2006 license: 11
Test sponsor: IBM Corporation
Tested by: IBM Corporation

Test date: Aug-2014
Hardware Availability: Jun-2014
Software Availability: Nov-2013

Peak Optimization Flags (Continued)

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/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/IBM-Platform-Flags-V1.2-IVB-A.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-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 Thu Oct 2 16:16:18 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 2 October 2014.