



SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint®_rate2006 = 5110

HP Integrity Superdome X
(160 core, 2.20 GHz, Intel Xeon E7-4830 v2)

SPECint_rate_base2006 = 4950

CPU2006 license: 3

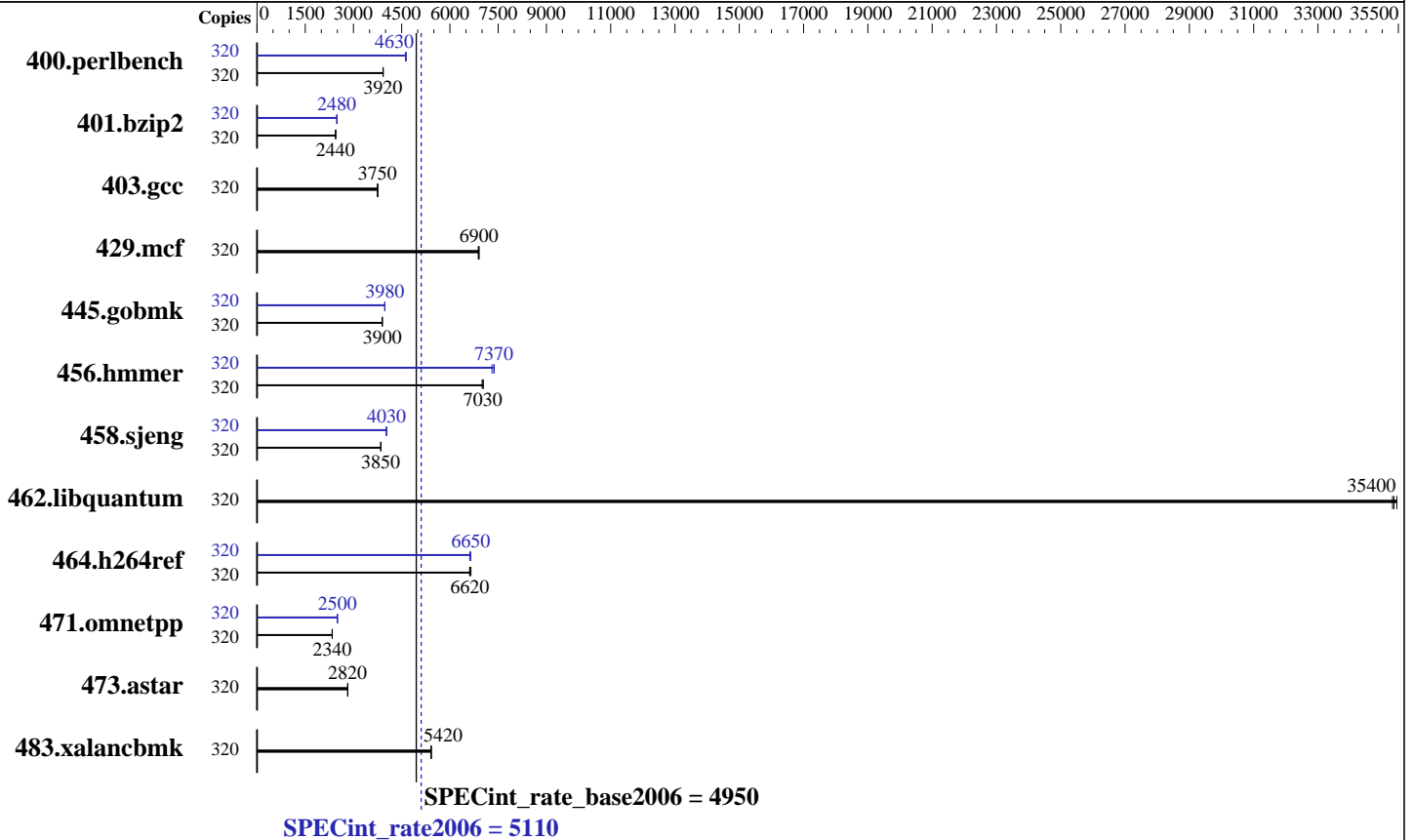
Test date: Mar-2015

Test sponsor: Hewlett-Packard Company

Hardware Availability: Feb-2015

Tested by: Hewlett-Packard Company

Software Availability: Jul-2014



Hardware

CPU Name: Intel Xeon E7-4830 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 2.70 GHz
 CPU MHz: 2200
 FPU: Integrated
 CPU(s) enabled: 160 cores, 16 chips, 10 cores/chip, 2 threads/core
 CPU(s) orderable: 8,16 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 20 MB I+D on chip per chip
 Other Cache: None
 Memory: 4 TB (128 x 32 GB 4Rx4 PC3-14900L-13, ECC, running at 1067 MHz)
 Disk Subsystem: 12 x 900 GB 10 K RPM SAS, RAID 6
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64) SP3
 Kernel 3.0.101-0.30-bigsmpt
 Compiler: C/C++; Version 14.0.0.080 of Intel C++ Studio XE for Linux
 Auto Parallel: No
 File System: tmpfs
 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

Hewlett-Packard Company

SPECint_rate2006 = 5110

HP Integrity Superdome X
(160 core, 2.20 GHz, Intel Xeon E7-4830 v2)

SPECint_rate_base2006 = 4950

CPU2006 license: 3

Test date: Mar-2015

Test sponsor: Hewlett-Packard Company

Hardware Availability: Feb-2015

Tested by: Hewlett-Packard Company

Software Availability: Jul-2014

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	320	797	3920	796	3930	798	3920	320	674	4640	676	4630	676	4620
401.bzip2	320	1260	2450	1264	2440	1264	2440	320	1244	2480	1243	2480	1243	2480
403.gcc	320	685	3760	687	3750	688	3750	320	685	3760	687	3750	688	3750
429.mcf	320	423	6900	423	6910	424	6880	320	423	6900	423	6910	424	6880
445.gobmk	320	861	3900	862	3890	861	3900	320	844	3980	845	3970	844	3980
456.hammer	320	424	7040	425	7030	426	7000	320	409	7310	405	7370	405	7380
458.sjeng	320	1005	3850	1005	3850	1006	3850	320	963	4020	960	4030	962	4030
462.libquantum	320	187	35400	187	35500	188	35300	320	187	35400	187	35500	188	35300
464.h264ref	320	1070	6620	1064	6650	1070	6620	320	1065	6650	1065	6650	1070	6620
471.omnetpp	320	856	2340	855	2340	854	2340	320	799	2500	800	2500	800	2500
473.astar	320	796	2820	795	2830	796	2820	320	796	2820	795	2830	796	2820
483.xalancbmk	320	407	5420	408	5420	408	5420	320	407	5420	408	5420	408	5420

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"
intel_idle.max_cstate=1 appended in kernel command line
Power profile set with:
cpupower -c all frequency-set -g performance
Benchmark installed under /dev/shm/cpu2006 and mount with:
mount -o bind /dev/shm/cpu2006 /cpu2006
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>
```

Platform Notes

```
Firmware settings:
Memory RAS Configuration set to Maximum Performance
Sysinfo program /cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 $# e86d102572650a6e4d596a3cee98f191
running on hawk038os1 Mon Mar 30 15:37:34 2015
```

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint_rate2006 = 5110

HP Integrity Superdome X
(160 core, 2.20 GHz, Intel Xeon E7-4830 v2)

SPECint_rate_base2006 = 4950

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Mar-2015
Hardware Availability: Feb-2015
Software Availability: Jul-2014

Platform Notes (Continued)

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 E7-4830 v2 @ 2.20GHz
 16 "physical id"s (chips)
 320 "processors"
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      : 10
siblings       : 20
physical 0:    : cores 0 1 2 3 4 8 9 10 11 12
physical 1:    : cores 0 1 2 3 4 8 9 10 11 12
physical 2:    : cores 0 1 2 3 4 8 9 10 11 12
physical 3:    : cores 0 1 2 3 4 8 9 10 11 12
physical 4:    : cores 0 1 2 3 4 8 9 10 11 12
physical 5:    : cores 0 1 2 3 4 8 9 10 11 12
physical 6:    : cores 0 1 2 3 4 8 9 10 11 12
physical 7:    : cores 0 1 2 3 4 8 9 10 11 12
physical 8:    : cores 0 1 2 3 4 8 9 10 11 12
physical 9:    : cores 0 1 2 3 4 8 9 10 11 12
physical 10:   : cores 0 1 2 3 4 8 9 10 11 12
physical 11:   : cores 0 1 2 3 4 8 9 10 11 12
physical 12:   : cores 0 1 2 3 4 8 9 10 11 12
physical 13:   : cores 0 1 2 3 4 8 9 10 11 12
physical 14:   : cores 0 1 2 3 4 8 9 10 11 12
physical 15:   : cores 0 1 2 3 4 8 9 10 11 12
cache size     : 20480 KB

```

```

From /proc/meminfo
MemTotal:      4235878148 kB
HugePages_Total: 0
Hugepagesize:  2048 kB

```

```

/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 11 (x86_64)

```

```

From /etc/*release* /etc/*version*
SuSE-release:
SUSE Linux Enterprise Server 11 (x86_64)
VERSION = 11
PATCHLEVEL = 3

```

```

uname -a:
Linux hawk038os1 3.0.101-0.30-bigsmpt #1 SMP Fri May 23 16:16:00 UTC 2014
(bdlclf5) x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Mar 30 15:12 last=S

SPEC is set to: /cpu2006

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint_rate2006 = 5110

HP Integrity Superdome X
(160 core, 2.20 GHz, Intel Xeon E7-4830 v2)

SPECint_rate_base2006 = 4950

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Mar-2015
Hardware Availability: Feb-2015
Software Availability: Jul-2014

Platform Notes (Continued)

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
tmpfs	tmpfs	2.0T	3.9G	2.0T	1%	/dev/shm

Additional information from dmidecode:

BIOS HP Bundle: 006.000.022 SFW: 015.095.000 02/20/2015

Memory:

128x HP HMT84GL7AMR4C-RD 32 GB 1067 MHz

256x not defined not defined

(End of data from sysinfo program)

Regarding the sysinfo display about the memory installed, the correct amount of memory is 4 TB. The dmidecode description should have one line reading as:

128x HP HMT84GL7AMR4C-RD 32 GB 1067 MHz

General Notes

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

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4

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



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint_rate2006 = 5110

HP Integrity Superdome X
(160 core, 2.20 GHz, Intel Xeon E7-4830 v2)

SPECint_rate_base2006 = 4950

CPU2006 license: 3

Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Mar-2015

Hardware Availability: Feb-2015

Software Availability: Jul-2014

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

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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint_rate2006 = 5110

HP Integrity Superdome X
(160 core, 2.20 GHz, Intel Xeon E7-4830 v2)

SPECint_rate_base2006 = 4950

CPU2006 license: 3

Test date: Mar-2015

Test sponsor: Hewlett-Packard Company

Hardware Availability: Feb-2015

Tested by: Hewlett-Packard Company

Software Availability: Jul-2014

Peak Optimization Flags (Continued)

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/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-revC.html>

<http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-Integrity-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-revC.xml>

<http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-Integrity-revA.xml>



SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Hewlett-Packard Company

SPECint_rate2006 = 5110

HP Integrity Superdome X
(160 core, 2.20 GHz, Intel Xeon E7-4830 v2)

SPECint_rate_base2006 = 4950

CPU2006 license: 3

Test date: Mar-2015

Test sponsor: Hewlett-Packard Company

Hardware Availability: Feb-2015

Tested by: Hewlett-Packard Company

Software Availability: Jul-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 Tue Apr 21 18:22:43 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 21 April 2015.