SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

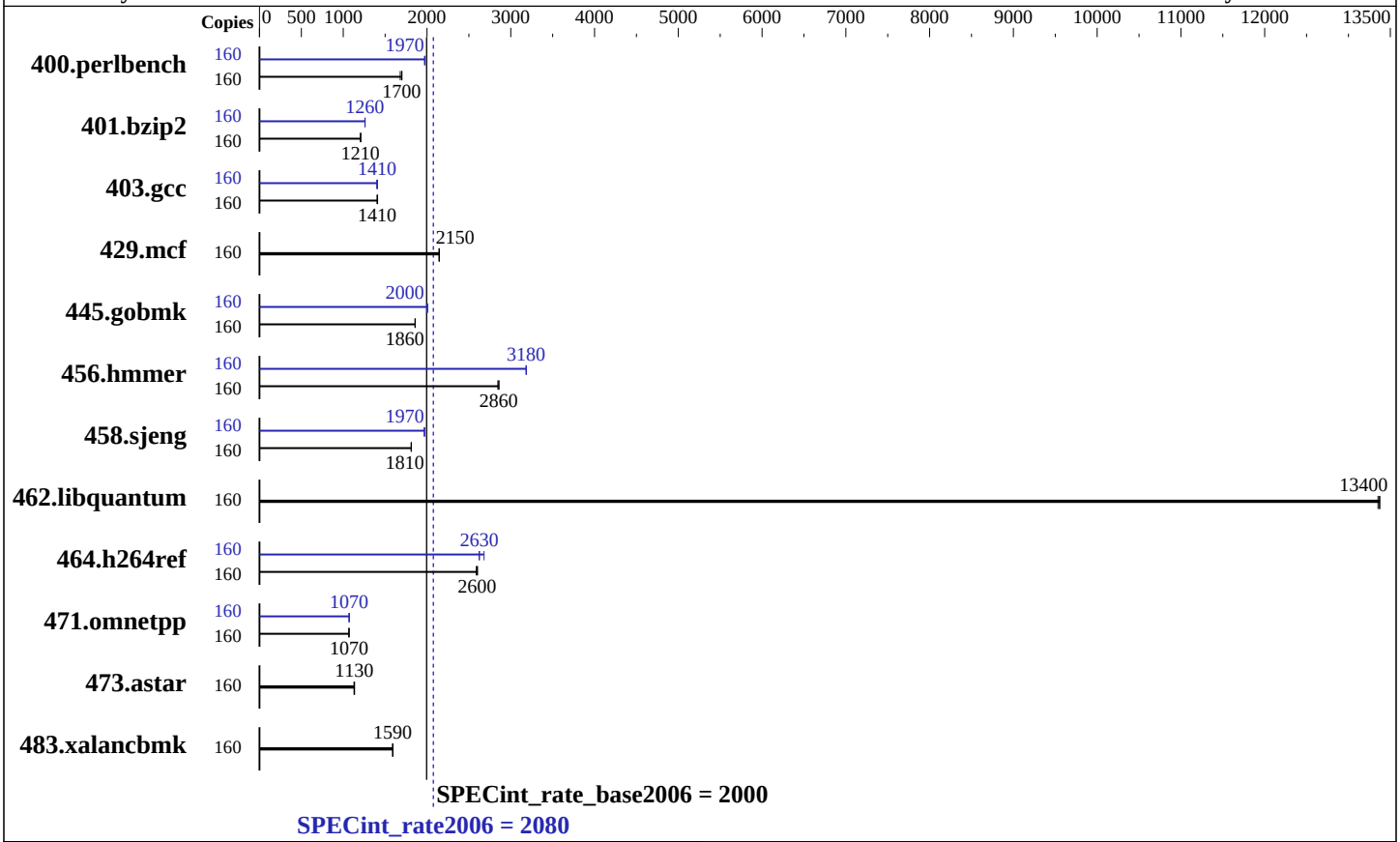
Tecal RH5885 V2 (8-sockets, Intel Xeon E7-8870)

SPECint®_rate2006 = 2080

SPECint_rate_base2006 = 2000

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

Test date: Jan-2013
Hardware Availability: Dec-2012
Software Availability: Oct-2012



Hardware

CPU Name:	Intel Xeon E7-8870
CPU Characteristics:	Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	80 cores, 8 chips, 10 cores/chip, 2 threads/core
CPU(s) orderable:	8 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:	2 TB (128 x 16 GB 4Rx4 PC3-10600R-9, ECC, running at 1066 MHz)
Disk Subsystem:	2 x 500 GB (SATA, 7200RPM, RAID1)
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.2 (Santiago) 2.6.32-220.el6.x86_64
Compiler:	C/C++: Version 13.0.0.079 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 V9.01

SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

Tecal RH5885 V2 (8-sockets, Intel Xeon E7-8870)

SPECint_rate2006 = 2080

SPECint_rate_base2006 = 2000

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

Test date: Jan-2013
Hardware Availability: Dec-2012
Software Availability: Oct-2012

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	160	919	1700	**921**	**1700**	930	1680	160	790	1980	793	1970	**793**	**1970**
401.bzip2	160	**1279**	**1210**	1278	1210	1279	1210	160	1226	1260	1225	1260	**1225**	**1260**
403.gcc	160	913	1410	917	1400	**916**	**1410**	160	**916**	**1410**	914	1410	920	1400
429.mcf	160	679	2150	**679**	**2150**	681	2140	160	679	2150	**679**	**2150**	681	2140
445.gobmk	160	903	1860	**903**	**1860**	904	1860	160	839	2000	837	2000	**837**	**2000**
456.hmmer	160	522	2860	525	2850	**522**	**2860**	160	468	3190	**469**	**3180**	469	3180
458.sjeng	160	1069	1810	**1068**	**1810**	1068	1810	160	983	1970	**983**	**1970**	983	1970
462.libquantum	160	248	13400	**248**	**13400**	248	13400	160	248	13400	**248**	**13400**	248	13400
464.h264ref	160	1368	2590	1360	2600	**1363**	**2600**	160	1350	2620	1321	2680	**1348**	**2630**
471.omnetpp	160	935	1070	**935**	**1070**	937	1070	160	935	1070	**934**	**1070**	933	1070
473.astar	160	**991**	**1130**	995	1130	990	1130	160	**991**	**1130**	995	1130	990	1130
483.xalancbmk	160	**694**	**1590**	693	1590	694	1590	160	**694**	**1590**	693	1590	694	1590

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 configuration:
Power Technology set to Custom, Performance/Watt set to Traditional
Sysinfo program /home/cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ 5569a0425e2ad530534e4c79a46e4d28
running on 5885-8P-15 Thu Jan 31 14:04:11 2013

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- 8870 @ 2.40GHz
      8 "physical id"s (chips)
      160 "processors"
   cores, siblings (Caution: counting these is hw and system dependent.  The
   following excerpts from /proc/cpuinfo might not be reliable.  Use with
   caution.)
```

Continued on next page

Platform Notes (Continued)

```
        cpu cores : 10
        siblings  : 20
        physical 0: cores 0 1 2 8 9 16 17 18 24 25
        physical 1: cores 0 1 2 8 9 16 17 18 24 25
        physical 2: cores 0 1 2 8 9 16 17 18 24 25
        physical 3: cores 0 1 2 8 9 16 17 18 24 25
        physical 4: cores 0 1 2 8 9 16 17 18 24 25
        physical 5: cores 0 1 2 8 9 16 17 18 24 25
        physical 6: cores 0 1 2 8 9 16 17 18 24 25
        physical 7: cores 0 1 2 8 9 16 17 18 24 25
     cache size : 30720 KB

  From /proc/meminfo
     MemTotal:       2117589300 kB
     HugePages_Total:       0
     Hugepagesize:       2048 kB

  /usr/bin/lsb_release -d
     Red Hat Enterprise Linux Server release 6.2 (Santiago)

  From /etc/*release* /etc/*version*
     redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
     system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
     system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

  uname -a:
     Linux 5885-8P-15 2.6.32-220.el6.x86_64 #1 SMP Wed Nov 9 08:03:13 EST 2011
     x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 Jan 31 11:19

  SPEC is set to: /home/cpu2006
     Filesystem     Type    Size  Used Avail Use% Mounted on
     /dev/mapper/vg_58858p15-lv_home
                    ext4    434G   14G  398G   4% /home

  Additional information from dmidecode:
    BIOS American Megatrends Inc. RGPUC-BIOS-V052 01/16/2013
    Memory:
     128x   16 GB
     128x Hyundai HMT42GR7BMR4C-H9 16 GB 1067 MHz 4 rank

  (End of data from sysinfo program)
     Descriptions about memory generated by sysinfo are not correct,
     only 128 DIMMs are installed not 256, see descriptions below.
     Memory:
      128x Hyundai HMT42GR7BMR4C-H9 16 GB 1067 MHz 4 rank
```

General Notes

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

 Binaries compiled on a system with 4x Xeon E7-8870 CPU + 1024GB
 memory using RHEL6.2
 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:
```
-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/home/cpu2006/smartheap -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

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: -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

Continued on next page

Peak Optimization Flags (Continued)

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/home/cpu2006/smartheap -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-ic12.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-revG.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-revG.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 15:17:47 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 26 February 2013.