SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

SGI

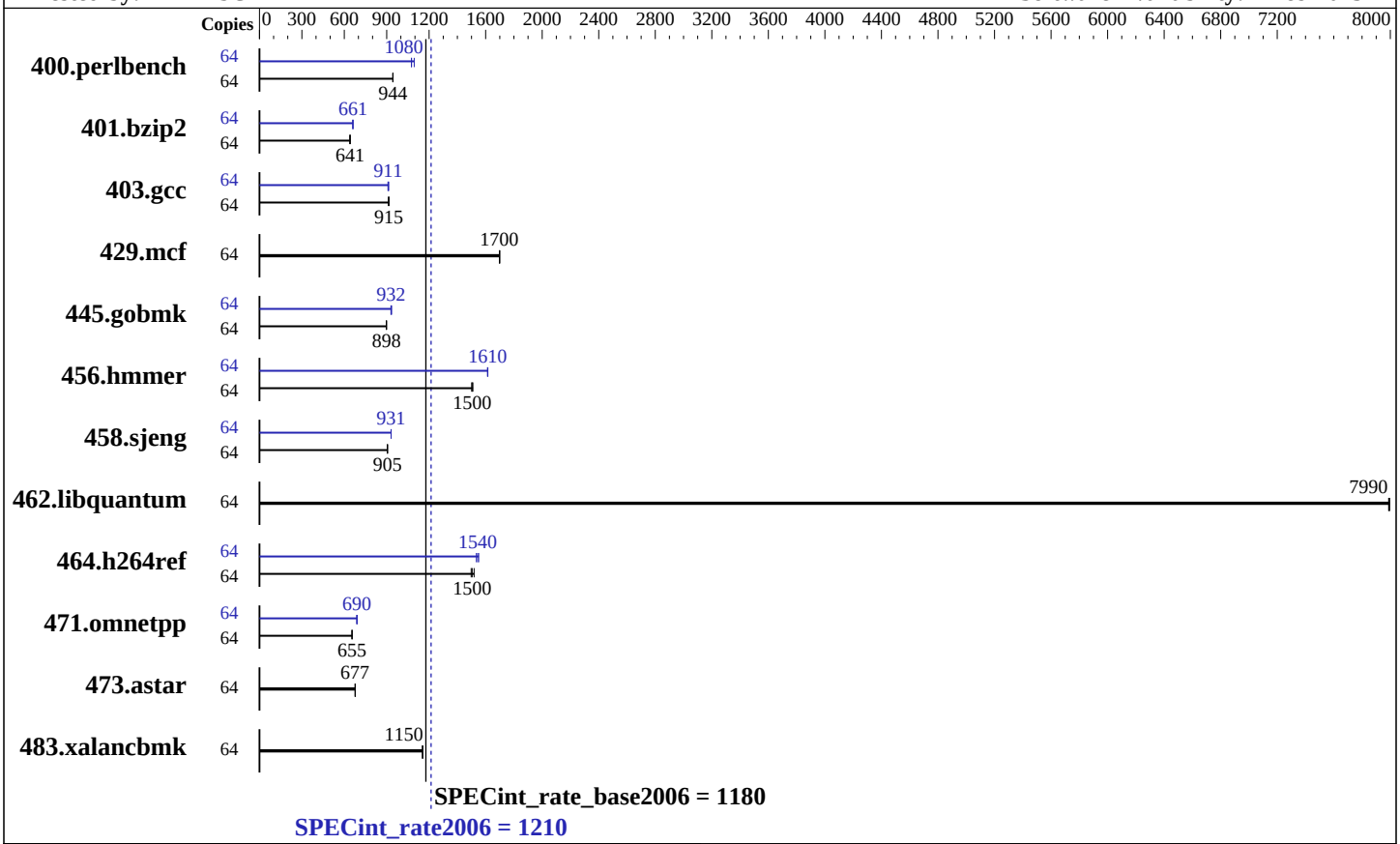
SGI UV 20 (Intel Xeon E5-4650, 2.70 GHz)

SPECint®_rate2006 = 1210

SPECint_rate_base2006 = 1180

CPU2006 license: 4
Test sponsor: SGI
Tested by: SGI

Test date: Mar-2013
Hardware Availability: Nov-2012
Software Availability: Feb-2013



Hardware

CPU Name:	Intel Xeon E5-4650
CPU Characteristics:	Intel Turbo Boost Technology up to 3.30 GHz
CPU MHz:	2700
FPU:	Integrated
CPU(s) enabled:	32 cores, 4 chips, 8 cores/chip, 2 threads/core
CPU(s) orderable:	2,4 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:	512 GB (32 x 16 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem:	3.3 TB RAID 0 6 x 600 GB, SSD
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64) kernel 3.0.42-0.7-default
Compiler:	C/C++: Version 13.0.0.133 of Intel C++ Studio XE for Linux
Auto Parallel:	No
File System:	xfs
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

SGI

SGI UV 20 (Intel Xeon E5-4650, 2.70 GHz)

SPECint_rate2006 = 1210

SPECint_rate_base2006 = 1180

CPU2006 license: 4
Test sponsor: SGI
Tested by: SGI

Test date: Mar-2013
Hardware Availability: Nov-2012
Software Availability: Feb-2013

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	64	663	943	662	945	**662**	**944**	64	**581**	**1080**	571	1090	582	1070
401.bzip2	64	961	642	**963**	**641**	968	638	64	934	661	935	660	**934**	**661**
403.gcc	64	562	916	**563**	**915**	565	912	64	567	909	**565**	**911**	563	914
429.mcf	64	**344**	**1700**	344	1700	343	1700	64	**344**	**1700**	344	1700	343	1700
445.gobmk	64	748	898	**747**	**898**	747	898	64	718	935	722	930	**721**	**932**
456.hmmer	64	396	1510	398	1500	**397**	**1500**	64	370	1620	370	1610	**370**	**1610**
458.sjeng	64	856	905	**855**	**905**	855	906	64	**832**	**931**	831	931	832	931
462.libquantum	64	**166**	**7990**	166	7990	166	8000	64	**166**	**7990**	166	7990	166	8000
464.h264ref	64	**941**	**1500**	933	1520	946	1500	64	913	1550	**917**	**1540**	923	1530
471.omnetpp	64	610	655	**611**	**655**	611	655	64	**580**	**690**	579	691	581	688
473.astar	64	663	678	664	677	**664**	**677**	64	663	678	664	677	**664**	**677**
483.xalancbmk	64	382	1150	**383**	**1150**	383	1150	64	382	1150	**383**	**1150**	383	1150

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

```
Sysinfo program /store/cma/cpu2006-v1.2/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on cy020 Sun Mar 10 16:51:38 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 E5-4650 0 @ 2.70GHz
      4 "physical id"s (chips)
      64 "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 : 8
      siblings  : 16
```

Continued on next page

Platform Notes (Continued)

```
        physical 0: cores 0 1 2 3 4 5 6 7
        physical 1: cores 0 1 2 3 4 5 6 7
        physical 2: cores 0 1 2 3 4 5 6 7
        physical 3: cores 0 1 2 3 4 5 6 7
     cache size : 20480 KB

  From /proc/meminfo
     MemTotal:       529360176 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 = 2
     sgi-accelerate-release: SGI Accelerate 1.5, Build 707r85.sles11sp2-1302142007
     sgi-foundation-release: SGI Foundation Software 2.7, Build
     707r85.sles11sp2-1302142007
     sgi-mpi-release: SGI MPI 1.5, Build 707r85.sles11sp2-1302142007
     sgi-propack-release: SGI ProPack 706 for Linux, Build
     706rp51.sles11sp2-1210312107
     sgi-release: SGI Performance Suite 1.5, Build 707r85.sles11sp2-1302142007
     sgi-upc-release: SGI UPC 1.5, Build 707r85.sles11sp2-1302142007

  uname -a:
     Linux cy020 3.0.42-0.7-default #1 SMP Tue Oct 9 11:58:45 UTC 2012 (a8dc443)
     x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 Mar 4 10:31 last=S

  SPEC is set to: /store/cma/cpu2006-v1.2
     Filesystem     Type  Size  Used Avail Use% Mounted on
     /dev/sdc1      xfs   3.3T  834G  2.5T  25% /scratch

  Cannot run dmidecode; consider saying 'chmod +s /usr/sbin/dmidecode'

  (End of data from sysinfo program)
```

General Notes

```
 Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/store/cma/cpu2006-v1.2/libs/32:/store/cma/cpu2006-v1.2/libs/64:/store/cma/cpu2006-v1.2/sh"

  Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
  memory using RHEL5.5
  Transparent Huge Pages enabled with:
  echo always > /sys/kernel/mm/transparent_hugepage/enabled
```

Continued on next page

General Notes (Continued)

```
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:
`-xAVX -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3`

C++ benchmarks:
`-xAVX -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`

Continued on next page

Peak Compiler Invocation (Continued)

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: -xAVX(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: -xAVX(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: -xAVX -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

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

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

458.sjeng: -xAVX(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: -xAVX(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

Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: -xAVX(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-ic13-official-linux64.html
http://www.spec.org/cpu2006/flags/SGI-platform.20120912.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.xml
http://www.spec.org/cpu2006/flags/SGI-platform.20120912.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 15:32:52 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 7 May 2013.