SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

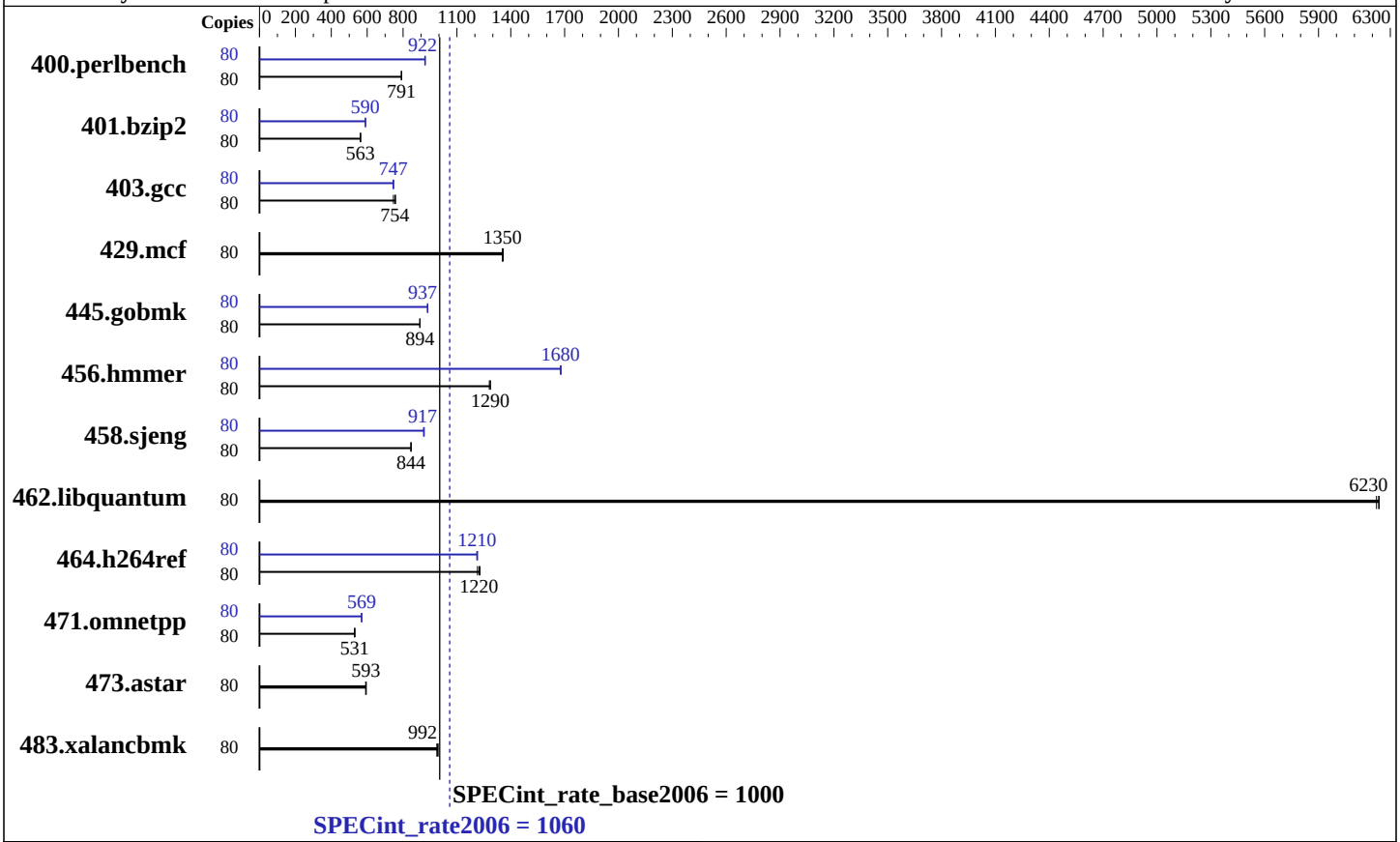
Sun Server X2-8 (Intel Xeon E7-8870 2.40 GHz)

SPECint®_rate2006 = 1060

SPECint_rate_base2006 = 1000

CPU2006 license: 6
Test sponsor: Oracle Corporation
Tested by: Oracle Corporation

Test date: Nov-2012
Hardware Availability: Jul-2011
Software Availability: Dec-2011



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:	40 cores, 4 chips, 10 cores/chip, 2 threads/core
CPU(s) orderable:	4,8 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:	256 GB (64 x 4 GB 2Rx8 PC3L-10600R-9, ECC, running at 1066 MHz and CL7)
Disk Subsystem:	1 x 300 GB, 10 K RPM, SAS
Other Hardware:	None

Software

Operating System:	Oracle Linux 6.2 kernel 2.6.32-220.el6.x86_64
Compiler:	C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux
Auto Parallel:	No
File System:	ext3
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

Oracle Corporation

Sun Server X2-8 (Intel Xeon E7-8870 2.40 GHz)

SPECint_rate2006 = 1060

SPECint_rate_base2006 = 1000

CPU2006 license: 6
Test sponsor: Oracle Corporation
Tested by: Oracle Corporation

Test date: Nov-2012
Hardware Availability: Jul-2011
Software Availability: Dec-2011

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	80	988	791	**988**	**791**	988	791	80	845	924	849	921	**848**	**922**
401.bzip2	80	**1372**	**563**	1373	562	1371	563	80	1309	590	**1308**	**590**	1307	591
403.gcc	80	863	746	849	758	**854**	**754**	80	866	744	**863**	**747**	862	747
429.mcf	80	**539**	**1350**	539	1350	537	1360	80	**539**	**1350**	539	1350	537	1360
445.gobmk	80	939	893	939	894	**939**	**894**	80	**896**	**937**	897	936	895	938
456.hmmer	80	580	1290	**581**	**1290**	583	1280	80	444	1680	**445**	**1680**	445	1680
458.sjeng	80	1145	845	1147	844	**1147**	**844**	80	**1056**	**917**	1059	914	1055	918
462.libquantum	80	266	6240	266	6220	**266**	**6230**	80	266	6240	266	6220	**266**	**6230**
464.h264ref	80	**1448**	**1220**	1458	1210	1441	1230	80	1457	1220	**1460**	**1210**	1462	1210
471.omnetpp	80	941	532	**942**	**531**	945	529	80	880	568	**879**	**569**	878	569
473.astar	80	949	592	944	595	**948**	**593**	80	949	592	944	595	**948**	**593**
483.xalancbmk	80	555	995	**556**	**992**	559	988	80	555	995	**556**	**992**	559	988

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

```
Default BIOS Settings were used.
 Sysinfo program /speccpu/cpu2006v1.2/config/sysinfo.rev6800
 $Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
 running on x4800-001 Fri Nov  2 13:35:31 2012

 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
       4 "physical id"s (chips)
       80 "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
```

Continued on next page

Platform Notes (Continued)

```
        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
     cache size : 30720 KB

  From /proc/meminfo
     MemTotal:       264517388 kB
     HugePages_Total:       0
     Hugepagesize:       2048 kB

  /usr/bin/lsb_release -d
     Oracle Linux Server release 6.2

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

  uname -a:
     Linux x4800-001 2.6.32-220.el6.x86_64 #1 SMP Wed Dec 7 10:41:06 EST 2011
     x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 Nov 2 11:54

  SPEC is set to: /speccpu/cpu2006v1.2
     Filesystem     Type    Size  Used Avail Use% Mounted on
     /dev/sda5      ext3    271G   14G  244G   6% /

  (End of data from sysinfo program)
```

General Notes

```
 Environment variables set by runspec before the start of the run:
 LD_LIBRARY_PATH = "/speccpu/cpu2006v1.2/libs/32:/speccpu/cpu2006v1.2/libs/64"

  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/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/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

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/smartheap -lsmartheap

473.astar: basepeak = yes

Continued on next page

Peak Optimization Flags (Continued)

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/Oracle-platform-x86_64.CPUv1.2-RevA.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/Oracle-platform-x86_64.CPUv1.2-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 14:06:29 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 20 November 2012.