SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

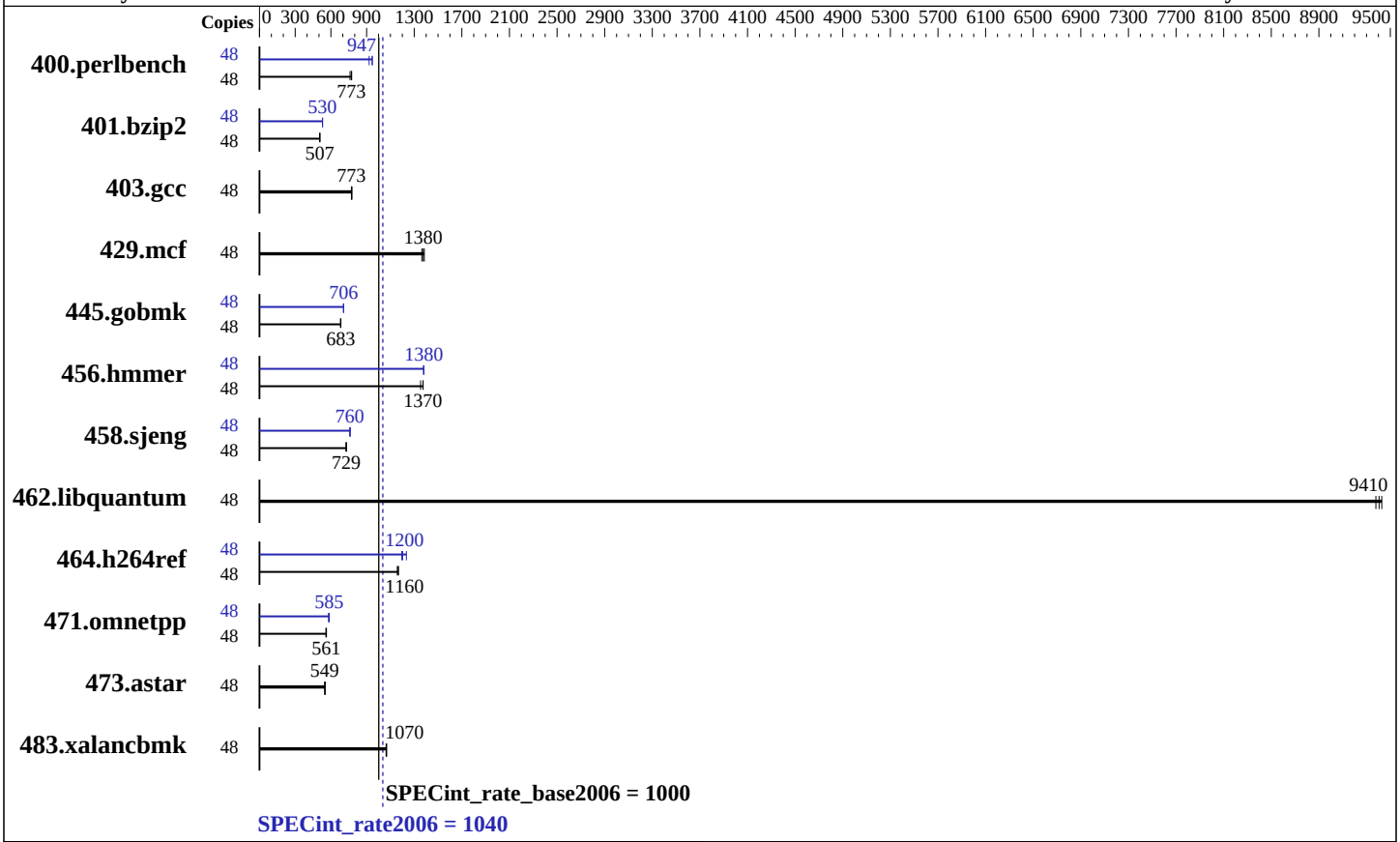
PowerEdge M630 (Intel Xeon E5-2680 v3, 2.50 GHz)

SPECint®_rate2006 = 1040

SPECint_rate_base2006 = 1000

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Oct-2014
Hardware Availability: Dec-2014
Software Availability: Jan-2014



Hardware

CPU Name:	Intel Xeon E5-2680 v3
CPU Characteristics:	Intel Turbo Boost Technology up to 3.30 GHz
CPU MHz:	2500
FPU:	Integrated
CPU(s) enabled:	24 cores, 2 chips, 12 cores/chip, 2 threads/core
CPU(s) orderable:	1,2 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:	30 MB I+D on chip per chip
Other Cache:	None
Memory:	256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem:	1 x 1.6 TB SAS SSD
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

Dell Inc.

PowerEdge M630 (Intel Xeon E5-2680 v3, 2.50 GHz)

SPECint_rate2006 = 1040

SPECint_rate_base2006 = 1000

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

Test date: Oct-2014
Hardware Availability: Dec-2014
Software Availability: Jan-2014

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	48	616	761	**607**	**773**	606	774	48	**495**	**947**	509	921	495	948
401.bzip2	48	915	506	914	507	**914**	**507**	48	874	530	876	529	**875**	**530**
403.gcc	48	500	772	497	777	**500**	**773**	48	500	772	497	777	**500**	**773**
429.mcf	48	**318**	**1380**	321	1360	316	1380	48	**318**	**1380**	321	1360	316	1380
445.gobmk	48	**737**	**683**	740	680	736	684	48	**713**	**706**	712	707	713	706
456.hmmer	48	**326**	**1370**	331	1350	326	1370	48	**324**	**1380**	325	1380	324	1380
458.sjeng	48	798	727	**796**	**729**	796	730	48	762	762	765	759	**765**	**760**
462.libquantum	48	**106**	**9410**	106	9380	105	9430	48	**106**	**9410**	106	9380	105	9430
464.h264ref	48	**912**	**1160**	910	1170	918	1160	48	**883**	**1200**	861	1230	888	1200
471.omnetpp	48	533	563	**535**	**561**	537	558	48	**513**	**585**	511	587	517	580
473.astar	48	**614**	**549**	611	552	614	549	48	**614**	**549**	611	552	614	549
483.xalancbmk	48	**311**	**1070**	310	1070	311	1060	48	**311**	**1070**	310	1070	311	1060

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 settings:
Snoop Mode set to Cluster on Die
Virtualization Technology disabled
Execute Disable disabled
System Profile set to Custom
Memory Patrol Scrub set to Disabled
Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on localhost.localdomain Wed Oct 15 23:52:11 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 E5-2680 v3 @ 2.50GHz
      2 "physical id"s (chips)
```

Continued on next page

Platform Notes (Continued)

```
        48 "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 : 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
     cache size : 15360 KB

  From /proc/meminfo
     MemTotal:       264436912 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 localhost.localdomain 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 Oct 15 23:40

  SPEC is set to: /root/cpu2006-1.2
     Filesystem     Type  Size  Used Avail Use% Mounted on
     /dev/sda2      ext4  1.5T  9.7G  1.4T   1% /

  Additional information from dmidecode:
    BIOS Dell Inc. 1.0.0 10/13/2014
    Memory:
     8x 000000000000 Not Specified   2133 MHz 1 rank
     16x 00AD00B300AD HMA42GR7MFR4N-TFTD 16 GB 2133 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 = "/root/cpu2006-1.2/libs/32:/root/cpu2006-1.2/libs/64:/root/cpu2006-1.2/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

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:
`-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3`

C++ benchmarks:
`-xCORE-AVX2 -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: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xCORE-AVX2(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

Continued on next page

Peak Optimization Flags (Continued)

464.h264ref: `-xCORE-AVX2`(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: `-xCORE-AVX2`(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/Dell-Platform-Settings-V1.2-revE.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/Dell-Platform-Settings-V1.2-revE.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 Wed Dec 3 10:33:28 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 2 December 2014.