SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

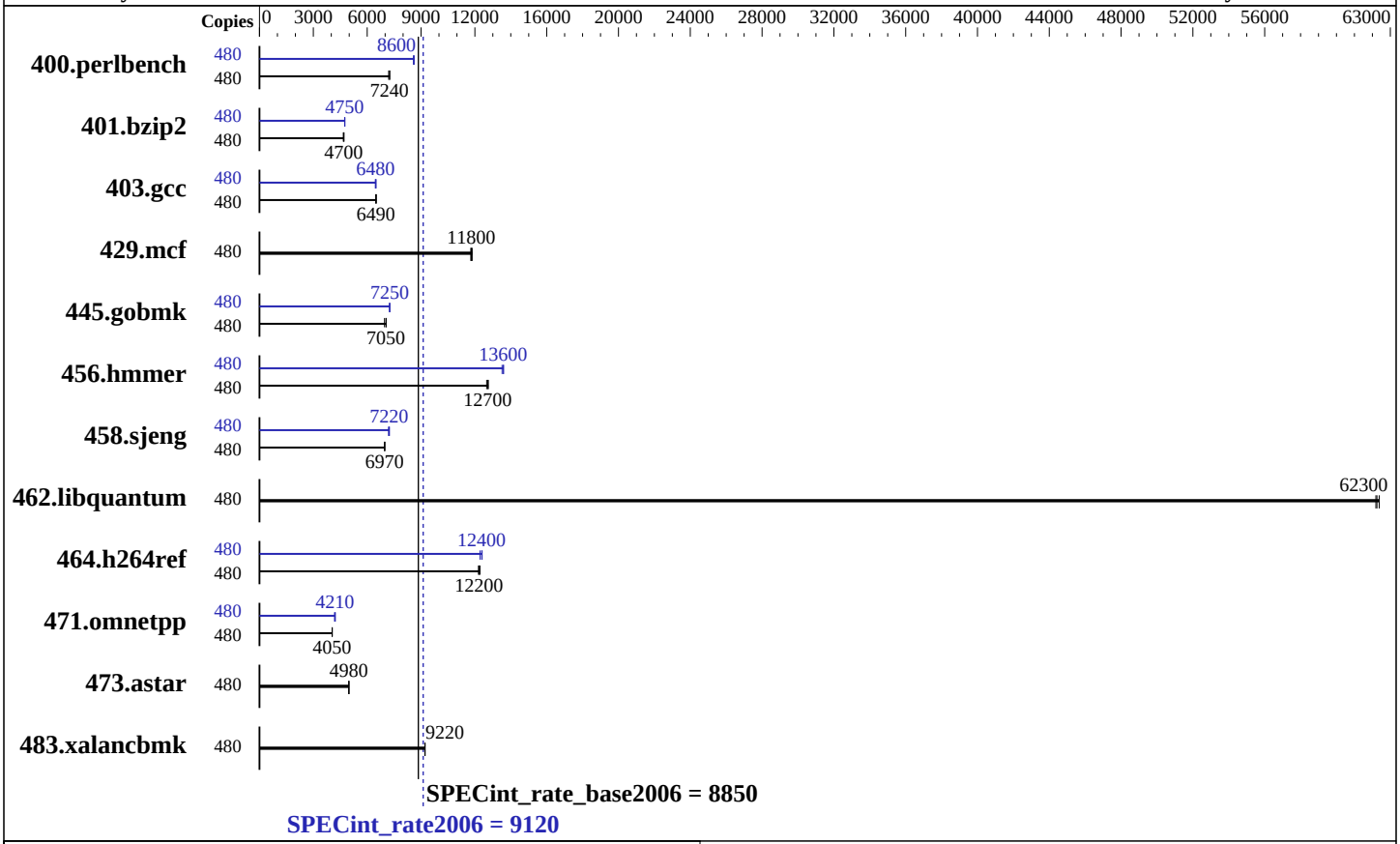
Bull SAS
bullion S16 (E7-4890 v2)

SPECint®_rate2006 = 9120

SPECint_rate_base2006 = 8850

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Bull SAS

Test date: Sep-2014
Hardware Availability: Oct-2014
Software Availability: Nov-2013



Hardware

CPU Name:	Intel Xeon E7-4890 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 3.40 GHz
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	240 cores, 16 chips, 15 cores/chip, 2 threads/core
CPU(s) orderable:	2, 4, 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:	37.5 MB I+D on chip per chip
Other Cache:	None
Memory:	2 TB (256 x 8 GB 2Rx8 PC3-12800R-11, ECC, running at 1333 MHz)
Disk Subsystem:	1 x 500 GB SATA, 7200 RPM
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:	tmpfs
System State:	Run level 3 (Full multiuser mode)
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

Bull SAS
bullion S16 (E7-4890 v2)

SPECint_rate2006 = 9120

SPECint_rate_base2006 = 8850

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Bull SAS

Test date: Sep-2014
Hardware Availability: Oct-2014
Software Availability: Nov-2013

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	480	**647**	**7240**	652	7200	646	7260	480	547	8580	**545**	**8600**	544	8610
401.bzip2	480	**986**	**4700**	992	4670	984	4710	480	**975**	**4750**	976	4740	973	4760
403.gcc	480	594	6510	**595**	**6490**	597	6480	480	595	6490	599	6450	**597**	**6480**
429.mcf	480	372	11800	369	11800	**371**	**11800**	480	372	11800	369	11800	**371**	**11800**
445.gobmk	480	**714**	**7050**	714	7060	723	6970	480	695	7250	**694**	**7250**	694	7260
456.hmmer	480	351	12800	**352**	**12700**	354	12700	480	**330**	**13600**	329	13600	331	13500
458.sjeng	480	833	6970	**833**	**6970**	832	6980	480	**804**	**7220**	802	7240	808	7190
462.libquantum	480	159	62400	**160**	**62300**	160	62200	480	159	62400	**160**	**62300**	160	62200
464.h264ref	480	**868**	**12200**	871	12200	865	12300	480	865	12300	**858**	**12400**	856	12400
471.omnetpp	480	741	4050	**741**	**4050**	740	4050	480	710	4220	718	4180	**712**	**4210**
473.astar	480	**677**	**4980**	676	4990	677	4980	480	**677**	**4980**	676	4990	677	4980
483.xalancbmk	480	359	9210	359	9220	**359**	**9220**	480	359	9210	359	9220	**359**	**9220**

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

```
SPEC files placed in /spec2006, with /spec2006
mounted as tmpfs with mpol=interleave, size=1024G
Stack size set to unlimited using "ulimit -s unlimited"
Kernel booted with option clocksource=jiffies (allows to count time with interrupts at
1 jiffy period instead using HPET counters)
```

Platform Notes

```
BIOS configuration:
Set Power Efficiency Mode to Performance
Set Memory RAS mode to Performance
Sysinfo program /spec2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on timco Fri Sep 26 17:24:30 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 E7-4890 v2 @ 2.80GHz
```

Continued on next page

Platform Notes (Continued)

```
        16 "physical id"s (chips)
        480 "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 : 15
        siblings  : 30
        physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
        physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
        physical 2: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
        physical 3: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
        physical 4: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
        physical 5: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
        physical 6: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
        physical 7: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
        physical 8: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
        physical 9: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
        physical 10: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
        physical 11: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
        physical 12: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
        physical 13: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
        physical 14: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
        physical 15: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
     cache size : 38400 KB

  From /proc/meminfo
     MemTotal:       2117731976 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 timco 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 Sep 26 10:11

  SPEC is set to: /spec2006
     Filesystem     Type   Size  Used Avail Use% Mounted on
     none           tmpfs  1.0T  4.7G 1020G   1% /spec2006

  Additional information from dmidecode:
    BIOS Bull INX05.013.04.130 10/09/2014
    Memory:
     256x   8 GB
```

Continued on next page

Platform Notes (Continued)

```
      160x Micron 18KSF1G72PDZ-1G6E1 8 GB 1333 MHz 2 rank
      128x NO DIMM Unknown
      96x Samsung M393B1G73QH0-YK0 8 GB 1333 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 = "/spec2006/libs/32:/spec2006/libs/64:/spec2006/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:
  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/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`

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`

Continued on next page

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/Bull-BullionS-Flags-V1.0.html
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Bull-BullionS-Flags-V1.0.xml
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.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 Oct 22 16:01:53 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 22 October 2014.