



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

SPECint®2006 = 36.3

Sun Fire X2270 M2 (Intel Xeon E5649 2.53 GHz)

SPECint_base2006 = 34.5

CPU2006 license: 6

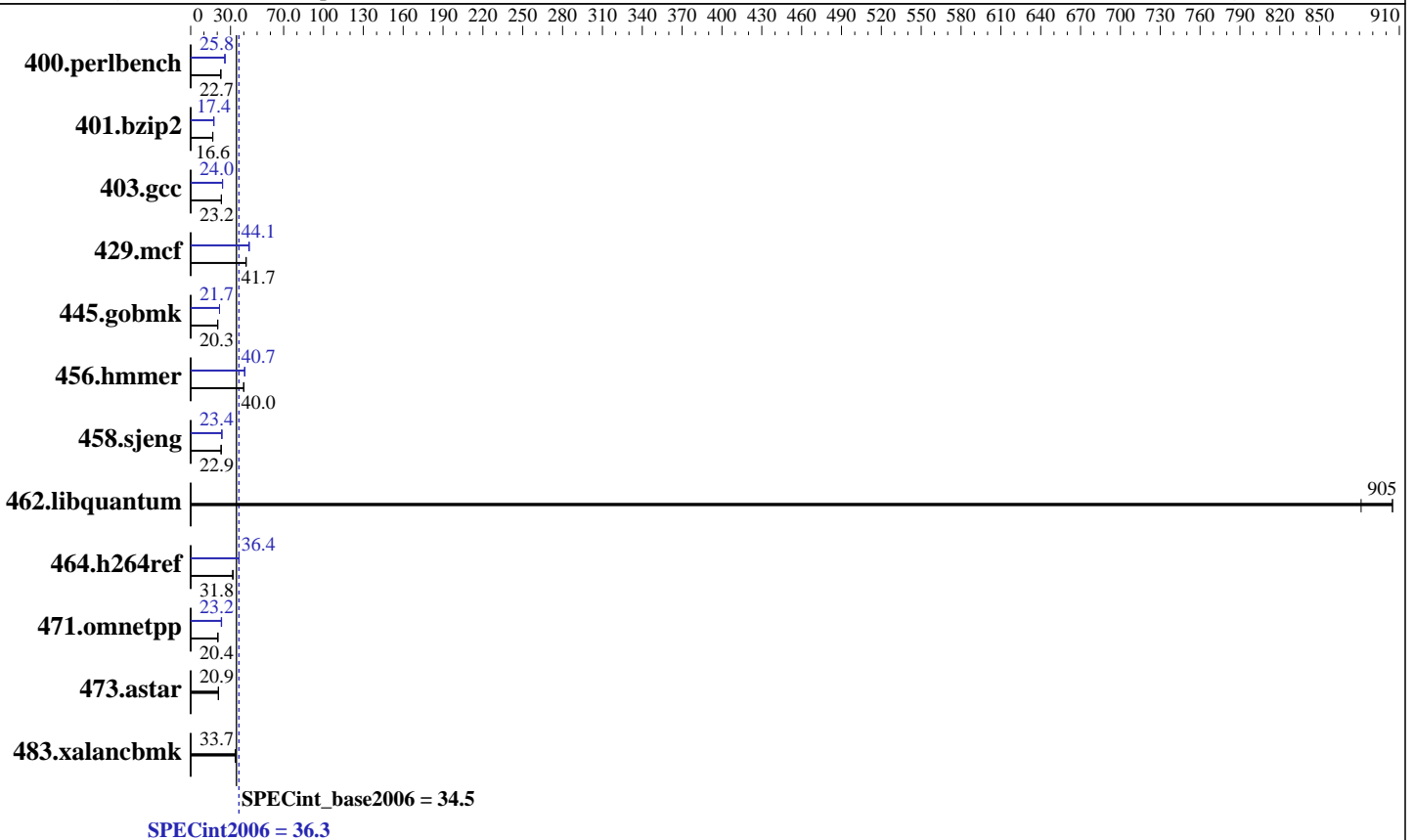
Test date: Feb-2011

Test sponsor: Oracle Corporation

Hardware Availability: Mar-2011

Tested by: Oracle Corporation

Software Availability: Nov-2010



Hardware

CPU Name: Intel Xeon E5649
 CPU Characteristics: Intel Turbo Boost Technology up to 2.93 GHz
 CPU MHz: 2533
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip
 CPU(s) orderable: 1,2 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: 12 MB I+D on chip per chip
 Other Cache: None
 Memory: 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)
 Disk Subsystem: 1 x 1 TB, SATA, 7200 RPM
 Other Hardware: None

Software

Operating System: Oracle Linux 5.5
 kernel 2.6.18-194.el5
 Compiler: Intel C++ Intel 64 Compiler XE for applications running on Intel 64
 Version 12.0.1.116 Build 20101116
 Auto Parallel: Yes
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V9.01



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

SPECint2006 = 36.3

Sun Fire X2270 M2 (Intel Xeon E5649 2.53 GHz)

SPECint_base2006 = 34.5

CPU2006 license: 6

Test date: Feb-2011

Test sponsor: Oracle Corporation

Hardware Availability: Mar-2011

Tested by: Oracle Corporation

Software Availability: Nov-2010

Results Table

| Benchmark | Base | | | | | | Peak | | | | | |
|----------------|-------------|-------------|------------|-------------|------------|-------------|-------------|-------------|------------|-------------|------------|-------------|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 431 | 22.7 | 431 | 22.7 | 432 | 22.6 | 379 | 25.8 | 379 | 25.8 | 379 | 25.8 |
| 401.bzip2 | 580 | 16.6 | 581 | 16.6 | 581 | 16.6 | 554 | 17.4 | 554 | 17.4 | 554 | 17.4 |
| 403.gcc | 348 | 23.2 | 347 | 23.2 | 350 | 23.0 | 336 | 24.0 | 336 | 24.0 | 336 | 24.0 |
| 429.mcf | 219 | 41.7 | 219 | 41.7 | 219 | 41.7 | 208 | 43.7 | 207 | 44.1 | 207 | 44.1 |
| 445.gobmk | 514 | 20.4 | 517 | 20.3 | 517 | 20.3 | 483 | 21.7 | 483 | 21.7 | 483 | 21.7 |
| 456.hammer | 233 | 40.0 | 234 | 39.9 | 233 | 40.0 | 229 | 40.7 | 229 | 40.7 | 229 | 40.7 |
| 458.sjeng | 526 | 23.0 | 528 | 22.9 | 527 | 22.9 | 516 | 23.5 | 516 | 23.4 | 516 | 23.4 |
| 462.libquantum | 22.9 | 905 | 23.5 | 881 | 22.9 | 905 | 22.9 | 905 | 23.5 | 881 | 22.9 | 905 |
| 464.h264ref | 699 | 31.6 | 695 | 31.8 | 696 | 31.8 | 608 | 36.4 | 607 | 36.4 | 608 | 36.4 |
| 471.omnetpp | 306 | 20.5 | 306 | 20.4 | 306 | 20.4 | 271 | 23.0 | 269 | 23.3 | 269 | 23.2 |
| 473.astar | 336 | 20.9 | 337 | 20.9 | 336 | 20.9 | 336 | 20.9 | 337 | 20.9 | 336 | 20.9 |
| 483.xalancbmk | 205 | 33.6 | 203 | 33.9 | 205 | 33.7 | 205 | 33.6 | 203 | 33.9 | 205 | 33.7 |

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
Hugepages was enabled with the following:
'nodev /mnt/hugepages hugetlbfs defaults 0 0' added to /etc/fstab
echo 900 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```

Platform Notes

Load Default BIOS Settings and then change the following
 Data Reuse Optimization Enabled
 Intel Hyperthreading Options Disabled

General Notes

OMP_NUM_THREADS set to number of cores
 KMP_AFFINITY set to granularity=fine,scatter
 Binaries were compiled on RHEL5.5 with Binutils binutils-2.17.50.0.6-14.el5

Submitted_by: gnanakumar rajaram <gnanakumar.rajaram@oracle.com>
 Submitted: Wed Mar 9 13:40:34 EST 2011
 Submission: cpu2006-20110214-14584.sub



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

SPECint2006 = 36.3

Sun Fire X2270 M2 (Intel Xeon E5649 2.53 GHz)

SPECint_base2006 = 34.5

CPU2006 license: 6

Test date: Feb-2011

Test sponsor: Oracle Corporation

Hardware Availability: Mar-2011

Tested by: Oracle Corporation

Software Availability: Nov-2010

Base Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
 401.bzip2: -DSPEC_CPU_LP64
 403.gcc: -DSPEC_CPU_LP64
 429.mcf: -DSPEC_CPU_LP64
 445.gobmk: -DSPEC_CPU_LP64
 456.hmmer: -DSPEC_CPU_LP64
 458.sjeng: -DSPEC_CPU_LP64
 462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
 464.h264ref: -DSPEC_CPU_LP64
 471.omnetpp: -DSPEC_CPU_LP64
 473.astar: -DSPEC_CPU_LP64
 483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/smartheap -lsmartheap64
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

SPECint2006 = 36.3

Sun Fire X2270 M2 (Intel Xeon E5649 2.53 GHz)

SPECint_base2006 = 34.5

CPU2006 license: 6

Test date: Feb-2011

Test sponsor: Oracle Corporation

Hardware Availability: Mar-2011

Tested by: Oracle Corporation

Software Availability: Nov-2010

Peak Compiler Invocation (Continued)

400.perlbench: `icc -m32`

429.mcf: `icc -m32`

445.gobmk: `icc -m32`

464.h264ref: `icc -m32`

C++ benchmarks (except as noted below):

`icpc -m64`

471.omnetpp: `icpc -m32`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`

401.bzip2: `-DSPEC_CPU_LP64`

403.gcc: `-DSPEC_CPU_LP64`

456.hmmer: `-DSPEC_CPU_LP64`

458.sjeng: `-DSPEC_CPU_LP64`

462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`

473.astar: `-DSPEC_CPU_LP64`

483.xalancbmk: `-DSPEC_CPU_LP64 -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) -opt-prefetch -ansi-alias -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT`

401.bzip2: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32 -opt-prefetch -ansi-alias`

403.gcc: `-xSSE4.2 -ipo -O3 -no-prec-div -inline-calloc -opt-malloc-options=3 -auto-ilp32 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`

429.mcf: `-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 -ansi-alias -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT`

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

SPECint2006 = 36.3

Sun Fire X2270 M2 (Intel Xeon E5649 2.53 GHz)

SPECint_base2006 = 34.5

CPU2006 license: 6

Test date: Feb-2011

Test sponsor: Oracle Corporation

Hardware Availability: Mar-2011

Tested by: Oracle Corporation

Software Availability: Nov-2010

Peak Optimization Flags (Continued)

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-auto-ilp32 -ansi-alias
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
-ansi-alias
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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

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
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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)
-opt-ra-region-strategy=block -ansi-alias -Wl,-z,muldefs
-L/smartheap -lsmartheap
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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-ic12.0-linux64-revB.html>
http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.20101027.html

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml>
http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.20101027.xml



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation

SPECint2006 = 36.3

Sun Fire X2270 M2 (Intel Xeon E5649 2.53 GHz)

SPECint_base2006 = 34.5

CPU2006 license: 6

Test sponsor: Oracle Corporation

Tested by: Oracle Corporation

Test date: Feb-2011

Hardware Availability: Mar-2011

Software Availability: Nov-2010

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 v1.1.
Report generated on Wed Jul 23 15:26:48 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 15 March 2011.