



SPEC® CINT2006 Result

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Oracle Corporation

SPECint®2006 = 61.0

Sun Fire X4-2L (Intel Xeon E5-2690 v2 3.0GHz)

SPECint_base2006 = 56.8

CPU2006 license: 6

Test date: Nov-2013

Test sponsor: Oracle Corporation

Hardware Availability: Sep-2013

Tested by: Oracle Corporation

Software Availability: Sep-2013



Hardware

CPU Name: Intel Xeon E5-2690 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 20 cores, 2 chips, 10 cores/chip
 CPU(s) orderable: 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: 25 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (16 x 16 GB 2Rx4 PC3-12800R-11, ECC)
 Disk Subsystem: 1 x 600 GB SAS, 10K RPM
 Other Hardware: None

Software

Operating System: Oracle Linux 6.4
 2.6.32-358.el6.x86_64
 Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4
 System State: Run level 5 (multi-user)
 Base Pointers: 32/64-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V10.0



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	289	33.8	289	33.8	<u>289</u>	<u>33.8</u>	242	40.4	<u>242</u>	<u>40.3</u>	243	40.3
401.bzip2	<u>392</u>	<u>24.6</u>	392	24.6	392	24.6	387	25.0	<u>387</u>	<u>25.0</u>	387	25.0
403.gcc	<u>230</u>	<u>35.0</u>	229	35.1	230	35.0	225	35.8	<u>225</u>	<u>35.8</u>	229	35.1
429.mcf	<u>134</u>	<u>68.3</u>	133	68.6	154	59.3	<u>134</u>	<u>68.3</u>	133	68.6	154	59.3
445.gobmk	405	25.9	407	25.8	<u>406</u>	<u>25.9</u>	371	28.3	371	28.3	<u>371</u>	<u>28.3</u>
456.hammer	<u>148</u>	<u>63.0</u>	150	62.3	147	63.5	151	61.6	<u>153</u>	<u>60.8</u>	154	60.8
458.sjeng	406	29.8	<u>407</u>	<u>29.8</u>	407	29.8	396	30.6	<u>396</u>	<u>30.6</u>	396	30.6
462.libquantum	5.50	3770	5.49	3770	<u>5.50</u>	<u>3770</u>	5.50	3770	5.49	3770	<u>5.50</u>	<u>3770</u>
464.h264ref	442	50.1	<u>441</u>	<u>50.1</u>	441	50.1	375	59.0	375	59.0	<u>375</u>	<u>59.0</u>
471.omnetpp	200	31.2	204	30.7	<u>201</u>	<u>31.1</u>	<u>133</u>	<u>47.1</u>	129	48.3	134	46.8
473.astar	<u>211</u>	<u>33.2</u>	211	33.3	212	33.1	211	33.3	212	33.1	<u>211</u>	<u>33.2</u>
483.xalancbmk	<u>117</u>	<u>59.2</u>	117	59.2	117	59.0	<u>117</u>	<u>59.2</u>	117	59.2	117	59.0

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

Submit Notes

The config file option 'submit' was used.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

Hyper-Threading (HT) Technology was Disabled
Energy Performance set to Performance

Sysinfo program /home/cpu2006v1.2/config/sysinfo.rev6818
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191
running on bur408-156 Mon Nov 4 13:51:48 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 E5-2690 v2 @ 3.00GHz
2 "physical id"s (chips)
20 "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

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Platform Notes (Continued)

```

siblings : 10
physical 0: cores 0 1 2 3 4 8 9 10 11 12
physical 1: cores 0 1 2 3 4 8 9 10 11 12
cache size : 25600 KB

```

From /proc/meminfo

```

MemTotal:      264475400 kB
HugePages_Total: 0
Hugepagesize:  2048 kB

```

/usr/bin/lsb_release -d

Oracle Linux Server release 6.4

From /etc/*release* /etc/*version*

```

oracle-release: Oracle Linux Server release 6.4
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Oracle Linux Server release 6.4
system-release-cpe: cpe:/o:oracle:oracle_linux:6server:ga:server

```

uname -a:

```

Linux bur408-156 2.6.32-358.el6.x86_64 #1 SMP Fri Feb 22 13:35:02 PST 2013
x86_64 x86_64 x86_64 GNU/Linux

```

run-level 5 Nov 4 13:49

SPEC is set to: /home/cpu2006v1.2

```

Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/vg_bur408156-lv_home
ext4 497G 5.0G 467G 2% /home

```

Additional information from dmidecode:

```

BIOS American Megatrends Inc. 26010601 09/18/2013
Memory:
16x 16 GB
16x Samsung M393B2G70BH0-YK0 16 GB 1600 MHz 1 rank

```

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:

```

KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/home/cpu2006v1.2/libs/32:/home/cpu2006v1.2/libs/64:/home/cpu2006v1.2/sh"
OMP_NUM_THREADS = "20"

```

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
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

```



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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:

-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:

-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -Wl,-z,muldefs
-L/sh -lsmartheap64

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

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Peak Compiler Invocation (Continued)

400.perlbench: `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`

429.mcf: `-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: `-xAVX(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`

401.bzip2: `-xAVX(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: `-xAVX -ipo -O3 -no-prec-div -inline-calloc
-opt-malloc-options=3 -auto-ilp32`

429.mcf: `basepeak = yes`

445.gobmk: `-xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias`

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

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Peak Optimization Flags (Continued)

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

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

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)
-opt-ra-region-strategy=block -ansi-alias
-Wl,-z,muldefs -L/sh -lsmarheap

473.aster: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh -lsmarheap64

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-linux64.20140128.html>

http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.CPUv1.2-RevA.20120425.html

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

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml>

http://www.spec.org/cpu2006/flags/Oracle-platform-x86_64.CPUv1.2-RevA.20120425.xml

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For other inquiries, please contact webmaster@spec.org.

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