



SPEC® CINT2006 Result

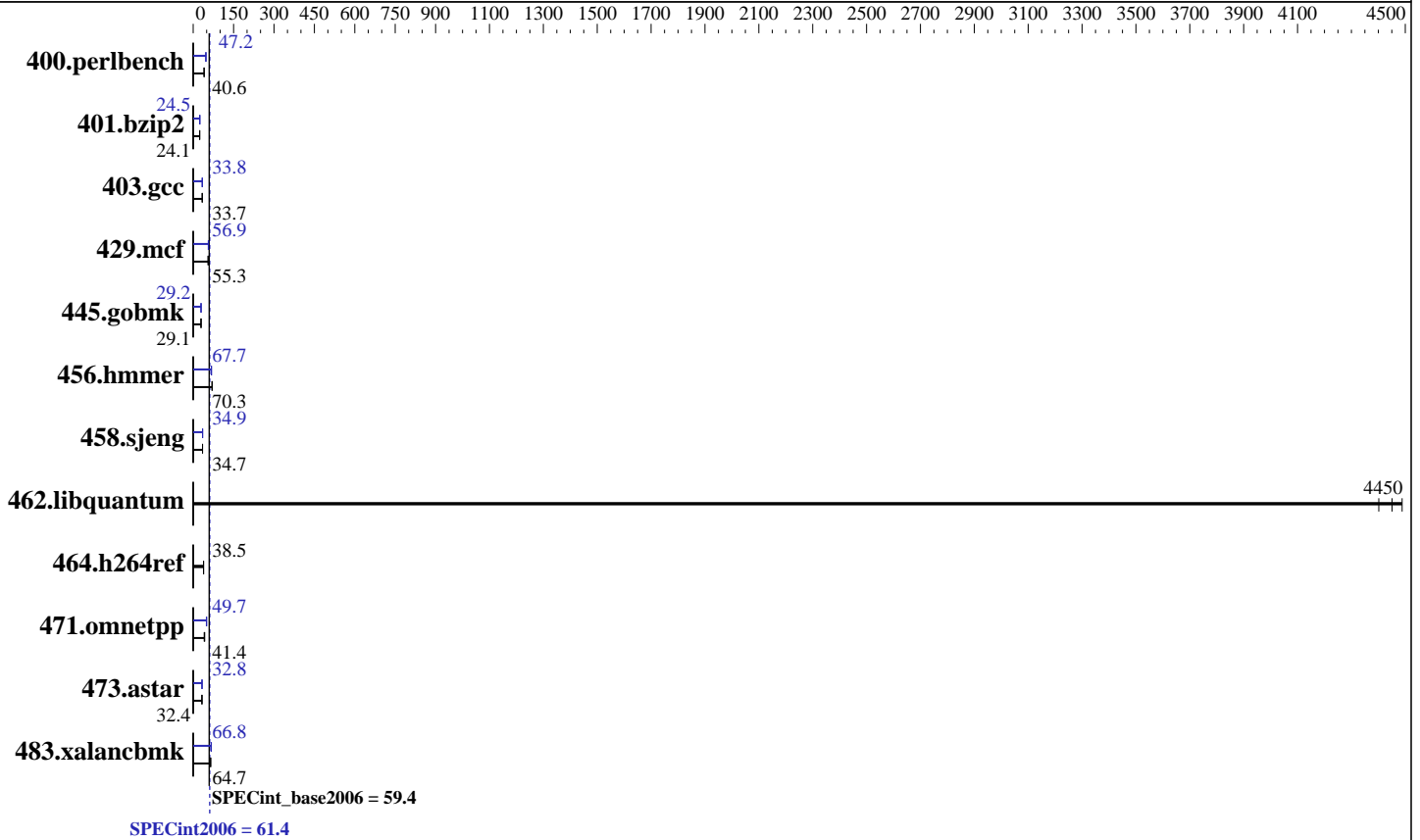
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Dell Inc.
Dell Precision Tower 7910

SPECint®2006 = 61.4
SPECint_base2006 = 59.4

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

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



Hardware

CPU Name: Intel Xeon E5-2699 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
 CPU MHz: 2300
 FPU: Integrated
 CPU(s) enabled: 36 cores, 2 chips, 18 cores/chip
 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: 45 MB I+D on chip per chip
 Other Cache: None
 Memory: 240 GB (15 x 16 GB 2Rx4 PC4-2133P-R)
 Disk Subsystem: 415 GB add more disk info here
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Workstation release 7.0 (Maipo) 3.10.0-123.el7.x86_64
 Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux
 Auto Parallel: Yes
 File System: xfs
 System State: Run level 3 (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 | <u>241</u> | <u>40.6</u> | 241 | 40.6 | 239 | 40.8 | 208 | 47.0 | <u>207</u> | <u>47.2</u> | 207 | 47.2 |
| 401.bzip2 | <u>401</u> | <u>24.1</u> | 402 | 24.0 | 400 | 24.1 | 394 | 24.5 | 394 | 24.5 | <u>394</u> | <u>24.5</u> |
| 403.gcc | 239 | 33.7 | <u>239</u> | <u>33.7</u> | 239 | 33.6 | 239 | 33.7 | <u>239</u> | <u>33.8</u> | 238 | 33.8 |
| 429.mcf | 160 | 57.0 | 165 | 55.3 | <u>165</u> | <u>55.3</u> | 163 | 56.0 | 160 | 57.0 | <u>160</u> | <u>56.9</u> |
| 445.gobmk | 360 | 29.1 | <u>360</u> | <u>29.1</u> | 360 | 29.1 | 359 | 29.2 | 359 | 29.2 | <u>359</u> | <u>29.2</u> |
| 456.hammer | <u>133</u> | <u>70.3</u> | 133 | 70.1 | 133 | 70.4 | <u>138</u> | <u>67.7</u> | 138 | 67.8 | 138 | 67.7 |
| 458.sjeng | 350 | 34.6 | 348 | 34.8 | <u>348</u> | <u>34.7</u> | 346 | 35.0 | <u>346</u> | <u>34.9</u> | 347 | 34.9 |
| 462.libquantum | 4.62 | 4490 | <u>4.66</u> | <u>4450</u> | 4.71 | 4400 | 4.62 | 4490 | <u>4.66</u> | <u>4450</u> | 4.71 | 4400 |
| 464.h264ref | <u>575</u> | <u>38.5</u> | 573 | 38.6 | 577 | 38.4 | <u>575</u> | <u>38.5</u> | 573 | 38.6 | 577 | 38.4 |
| 471.omnetpp | <u>151</u> | <u>41.4</u> | 146 | 42.9 | 152 | 41.2 | 125 | 49.9 | <u>126</u> | <u>49.7</u> | 128 | 49.0 |
| 473.astar | 217 | 32.4 | <u>217</u> | <u>32.4</u> | 215 | 32.6 | 214 | 32.8 | 214 | 32.7 | <u>214</u> | <u>32.8</u> |
| 483.xalancbmk | 107 | 64.5 | <u>107</u> | <u>64.7</u> | 106 | 64.8 | <u>103</u> | <u>66.8</u> | 103 | 66.8 | 103 | 66.8 |

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

```
Sysinfo program /home/ashows/Desktop/speccpu15/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 $# e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Mon Oct 20 08:58:07 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 E5-2699 v3 @ 2.30GHz
 2 "physical id"s (chips)
 36 "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 : 18
siblings : 18
physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
```

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Platform Notes (Continued)

cache size : 46080 KB

From /proc/meminfo

MemTotal: 247384800 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

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

os-release:

NAME="Red Hat Enterprise Linux Workstation"
VERSION="7.0 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.0"
PRETTY_NAME="Red Hat Enterprise Linux Workstation 7.0 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:workstation"

redhat-release: Red Hat Enterprise Linux Workstation release 7.0 (Maipo)
system-release: Red Hat Enterprise Linux Workstation release 7.0 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:workstation

uname -a:

Linux localhost.localdomain 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57 EDT 2014 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Oct 20 08:56

SPEC is set to: /home/ashows/Desktop/speccpu15

| Filesystem | Type | Size | Used | Avail | Use% | Mounted on |
|-----------------------|------|------|------|-------|------|------------|
| /dev/mapper/rhel-home | xfs | 415G | 335G | 80G | 81% | /home |

Cannot run dmidecode; consider saying 'chmod +s /usr/sbin/dmidecode'

(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/ashows/Desktop/speccpu15/libs/32:/home/ashows/Desktop/speccpu15/libs/64:/home/ashows/Desktop/speccpu15/sh"

OMP_NUM_THREADS = "36"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/transparent_hugepage/enabled

Submitted_by: <Alex_Shows@DELL.com>

Submitted: Tue Oct 21 09:52:04 EDT 2014

Submission: cpu2006-20141021-32459.sub



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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:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
-xCORE-AVX2 -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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| | | |
|---------------------------|--------------------|------|
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Peak Compiler Invocation (Continued)

400.perlbench: `icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

445.gobmk: `icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

C++ benchmarks (except as noted below):

`icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

473.astar: `icpc -m64`

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`
 464.h264ref: `-DSPEC_CPU_LP64`
 473.astar: `-DSPEC_CPU_LP64`
 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) -opt-prefetch -ansi-alias`

401.bzip2: `-xCORE-AVX2(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: `-xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc -opt-malloc-options=3 -auto-ilp32`

429.mcf: `-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32`

445.gobmk: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias`

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

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Peak Optimization Flags (Continued)

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

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

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

473.astar: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-auto-p32 -Wl,-z,muldefs -L/sh -lsmartheap64

483.xalancbmk: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-ansi-alias -Wl,-z,muldefs -L/sh -lsmartheap

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-ic15.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Default-Platform-Flags.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Default-Platform-Flags.xml>

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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 Tue Nov 18 16:30:13 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 18 November 2014.