



SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECint®2006 = 60.8

PowerEdge FC430 (Intel Xeon E5-2695 v3, 2.30 GHz)

SPECint_base2006 = 58.5

CPU2006 license: 55

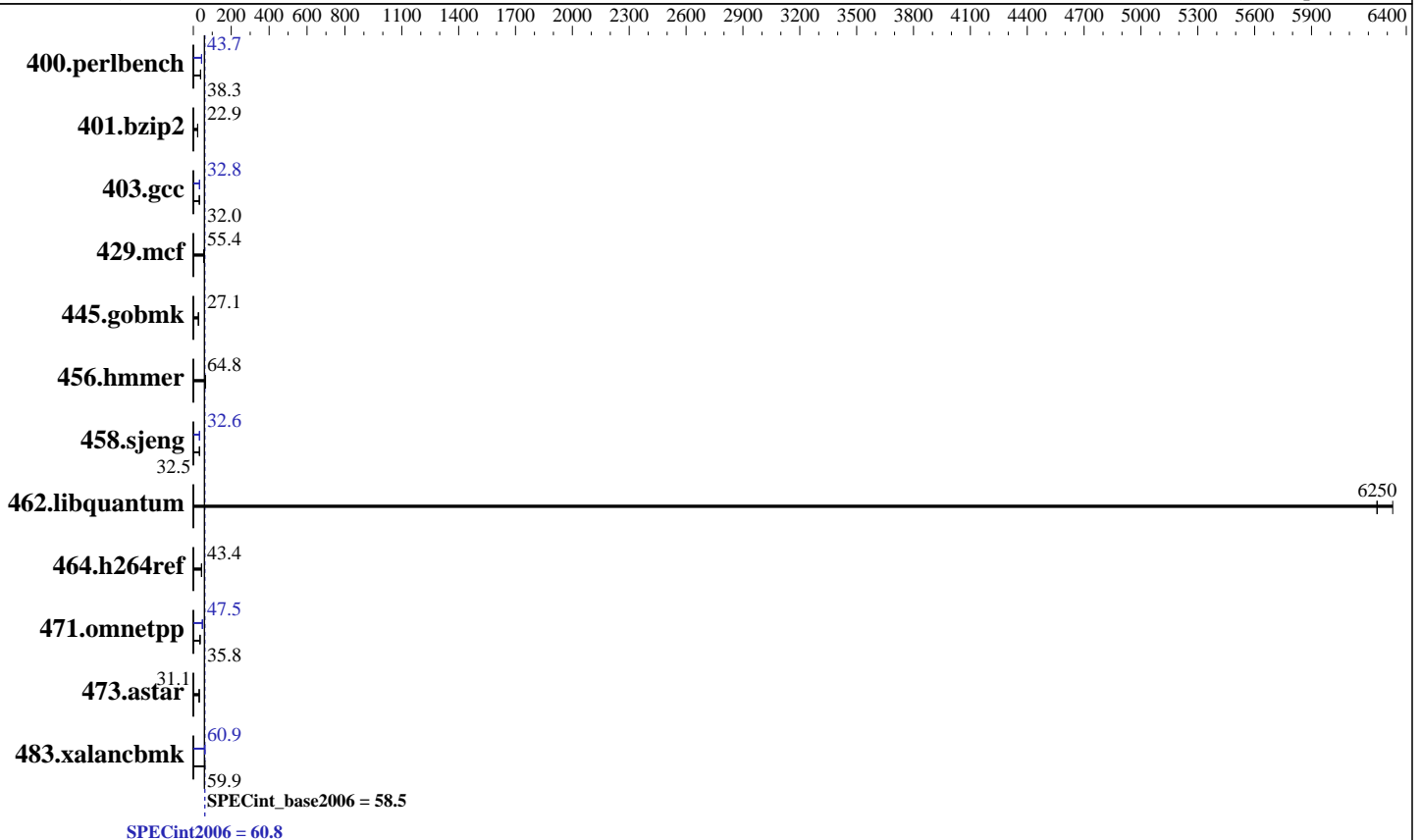
Test date: Jan-2015

Test sponsor: Dell Inc.

Hardware Availability: Apr-2015

Tested by: Dell Inc.

Software Availability: Apr-2015



Hardware

CPU Name: Intel Xeon E5-2695 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz
 CPU MHz: 2300
 FPU: Integrated
 CPU(s) enabled: 28 cores, 2 chips, 14 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: 35 MB I+D on chip per chip
 Other Cache: None
 Memory: 128 GB (8 x 16 GB 2Rx4 PC4-2133P-R)
 Disk Subsystem: 1 x 200 GB SSD SATA
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 12
 3.12.28-4-default
 Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4
 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	254	38.5	<u>255</u>	<u>38.3</u>	256	38.2	<u>224</u>	<u>43.7</u>	225	43.4	224	43.7
401.bzip2	419	23.0	422	22.9	<u>421</u>	<u>22.9</u>	419	23.0	422	22.9	<u>421</u>	<u>22.9</u>
403.gcc	252	32.0	<u>252</u>	<u>32.0</u>	253	31.9	<u>245</u>	<u>32.8</u>	247	32.5	245	32.9
429.mcf	165	55.3	<u>165</u>	<u>55.4</u>	164	55.5	165	55.3	<u>165</u>	<u>55.4</u>	164	55.5
445.gobmk	388	27.1	387	27.1	<u>388</u>	<u>27.1</u>	388	27.1	387	27.1	<u>388</u>	<u>27.1</u>
456.hammer	144	64.7	144	64.8	<u>144</u>	<u>64.8</u>	144	64.7	144	64.8	<u>144</u>	<u>64.8</u>
458.sjeng	372	32.5	373	32.5	<u>372</u>	<u>32.5</u>	<u>371</u>	<u>32.6</u>	371	32.6	371	32.6
462.libquantum	<u>3.32</u>	<u>6250</u>	3.27	6330	3.32	6240	<u>3.32</u>	<u>6250</u>	3.27	6330	3.32	6240
464.h264ref	509	43.5	<u>510</u>	<u>43.4</u>	512	43.2	509	43.5	<u>510</u>	<u>43.4</u>	512	43.2
471.omnetpp	173	36.1	<u>175</u>	<u>35.8</u>	185	33.7	132	47.4	127	49.1	<u>131</u>	<u>47.5</u>
473.astar	<u>226</u>	<u>31.1</u>	223	31.5	228	30.8	<u>226</u>	<u>31.1</u>	223	31.5	228	30.8
483.xalancbmk	115	59.8	112	61.4	<u>115</u>	<u>59.9</u>	113	60.8	<u>113</u>	<u>60.9</u>	113	60.9

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

BIOS settings:

Snoop Mode set to Home Snoop
Virtualization Technology disabled
System Profile set to Custom
Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6914
\$Rev: 6914 \$ \$Date: 2014-06-25 # \$ e3fbb8667b5a285932ceab81e28219e1
running on linux-8qjr Thu Jan 15 17:22:38 2015

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 E5-2695 v3 @ 2.30GHz
2 "physical id"s (chips)
56 "processors"

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

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Platform Notes (Continued)

```

cpu cores : 14
siblings  : 28
physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
cache size : 35840 KB

```

From /proc/meminfo

```

MemTotal:      132187004 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

/usr/bin/lsb_release -d

SUSE Linux Enterprise Server 12

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

SuSE-release:

```

SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 0

```

This file is deprecated and will be removed in a future service pack or release.

Please check /etc/os-release for details about this release.

os-release:

```

NAME="SLES"
VERSION="12"
VERSION_ID="12"
PRETTY_NAME="SUSE Linux Enterprise Server 12"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12"

```

uname -a:

```

Linux linux-8qjr 3.12.28-4-default #1 SMP Thu Sep 25 17:02:34 UTC 2014
(9879bd4) x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Jan 15 17:10

SPEC is set to: /root/cpu2006-1.2

```

Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2        ext4  176G   59G  116G   34% /

```

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS Dell Inc. 0.4.0 01/08/2015

Memory:

8x 00CE00B300CE M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz

(End of data from sysinfo program)



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General Notes

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

KMP_AFFINITY = "granularity=fine,scatter"

LD_LIBRARY_PATH = "/root/cpu2006-1.2/libs/32:/root/cpu2006-1.2/libs/64:/root/cpu2006-1.2/sh"

OMP_NUM_THREADS = "28"

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

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 -lsmarthheap64



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Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: 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
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
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: basepeak = yes

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc
-opt-malloc-options=3 -auto-ilp32

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Peak Optimization Flags (Continued)

429.mcf: basepeak = yes

445.gobmk: basepeak = yes

456.hmmer: basepeak = yes

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: basepeak = yes

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/Dell-Platform-Settings-V1.2-revD.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/Dell-Platform-Settings-V1.2-revD.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 Wed Apr 8 11:04:19 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 7 April 2015.