



# SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECint®\_rate2006 = 843

PowerEdge FC430 (Intel Xeon E5-2650 v3, 2.30 GHz)

SPECint\_rate\_base2006 = 805

CPU2006 license: 55

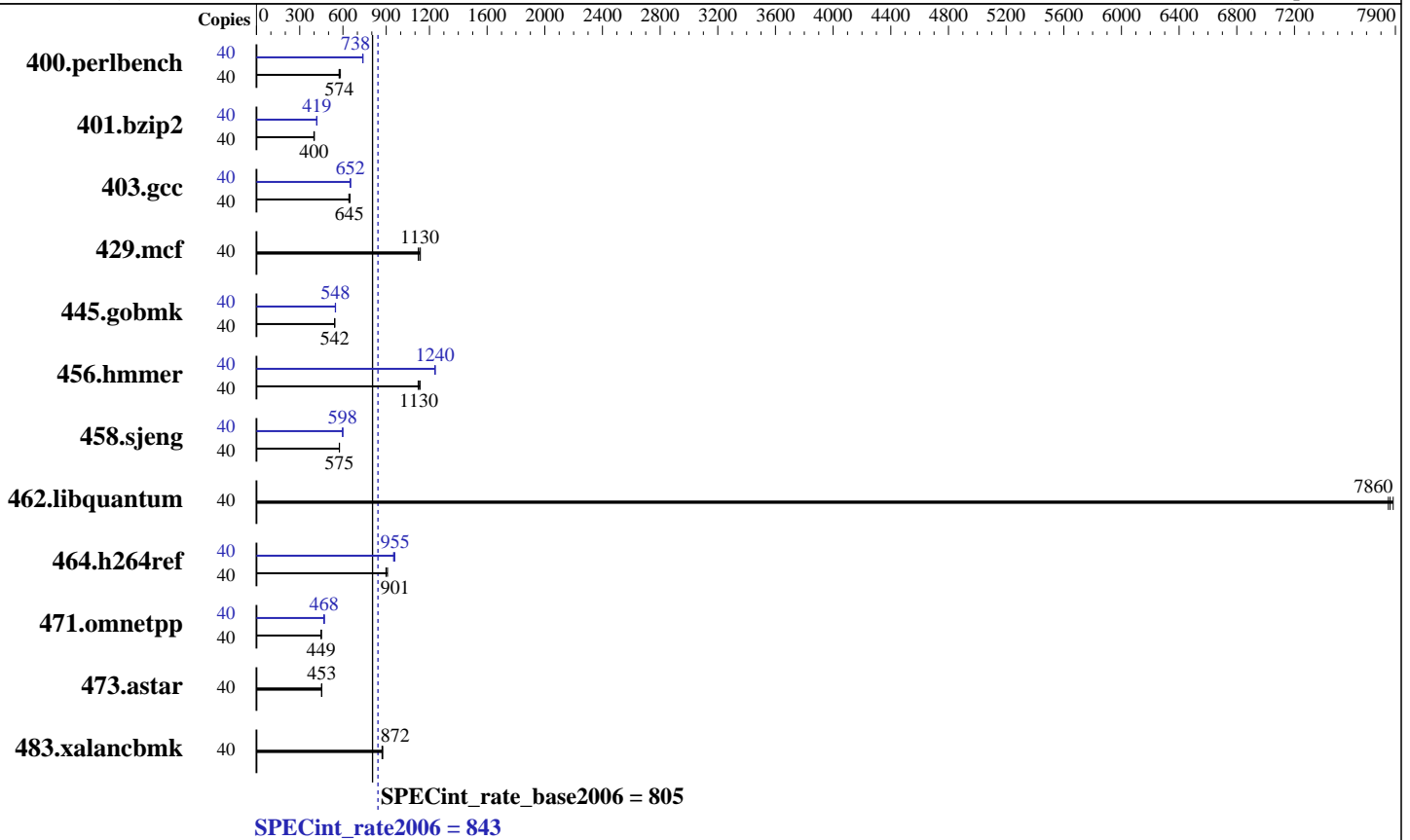
Test date: Jan-2015

Test sponsor: Dell Inc.

Hardware Availability: Apr-2015

Tested by: Dell Inc.

Software Availability: Apr-2015



### Hardware

CPU Name: Intel Xeon E5-2650 v3  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz  
 CPU MHz: 2300  
 FPU: Integrated  
 CPU(s) enabled: 20 cores, 2 chips, 10 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: 25 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: No  
 File System: ext4  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V10.0



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECint\_rate2006 = 843

PowerEdge FC430 (Intel Xeon E5-2650 v3, 2.30 GHz)

SPECint\_rate\_base2006 = 805

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

Test date: Jan-2015  
Hardware Availability: Apr-2015  
Software Availability: Apr-2015

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	40	671	582	<b>681</b>	<b>574</b>	681	574	40	530	737	529	739	<b>529</b>	<b>738</b>
401.bzip2	40	<b>965</b>	<b>400</b>	969	398	962	401	40	<b>922</b>	<b>419</b>	922	419	923	418
403.gcc	40	496	649	502	641	<b>499</b>	<b>645</b>	40	493	653	<b>494</b>	<b>652</b>	495	650
429.mcf	40	321	1140	<b>322</b>	<b>1130</b>	325	1120	40	321	1140	<b>322</b>	<b>1130</b>	325	1120
445.gobmk	40	773	543	774	542	<b>774</b>	<b>542</b>	40	765	549	767	547	<b>766</b>	<b>548</b>
456.hammer	40	329	1140	<b>331</b>	<b>1130</b>	333	1120	40	<b>301</b>	<b>1240</b>	302	1240	301	1240
458.sjeng	40	841	576	<b>841</b>	<b>575</b>	842	575	40	809	599	810	598	<b>809</b>	<b>598</b>
462.libquantum	40	105	7880	106	7850	<b>105</b>	<b>7860</b>	40	105	7880	106	7850	<b>105</b>	<b>7860</b>
464.h264ref	40	986	898	<b>982</b>	<b>901</b>	974	909	40	922	960	<b>927</b>	<b>955</b>	931	951
471.omnetpp	40	558	448	<b>556</b>	<b>449</b>	555	450	40	535	467	530	472	<b>534</b>	<b>468</b>
473.astar	40	623	451	<b>620</b>	<b>453</b>	619	454	40	623	451	<b>620</b>	<b>453</b>	619	454
483.xalancbmk	40	317	871	<b>316</b>	<b>872</b>	315	876	40	317	871	<b>316</b>	<b>872</b>	315	876

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

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

## Platform Notes

BIOS settings:  
Snoop Mode set to Cluster on Die  
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-ly8c Fri Jan 23 15:59:10 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 E5-2650 v3 @ 2.30GHz  
2 "physical id"s (chips)  
40 "processors"  
cores, siblings (Caution: counting these is hw and system dependent. The  
Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECint\_rate2006 = 843

PowerEdge FC430 (Intel Xeon E5-2650 v3, 2.30 GHz)

SPECint\_rate\_base2006 = 805

CPU2006 license: 55

Test date: Jan-2015

Test sponsor: Dell Inc.

Hardware Availability: Apr-2015

Tested by: Dell Inc.

Software Availability: Apr-2015

## Platform Notes (Continued)

following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

```
cpu cores : 5
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 : 12800 KB
```

From /proc/meminfo

```
MemTotal: 132186420 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-ly8c 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 23 15:55

SPEC is set to: /root/cpu2006-1.2

```
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 ext4 176G 8.6G 166G 5% /
```

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
```

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECint\_rate2006 = 843

PowerEdge FC430 (Intel Xeon E5-2650 v3, 2.30 GHz)

SPECint\_rate\_base2006 = 805

CPU2006 license: 55

Test date: Jan-2015

Test sponsor: Dell Inc.

Hardware Availability: Apr-2015

Tested by: Dell Inc.

Software Availability: Apr-2015

## Platform Notes (Continued)

(End of data from sysinfo program)

## General Notes

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

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

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
```

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

C++ benchmarks:

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

## Base Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
```

```
462.libquantum: -DSPEC_CPU_LINUX
```

```
483.xalancbmk: -DSPEC_CPU_LINUX
```

## Base Optimization Flags

C benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
```

```
-opt-mem-layout-trans=3
```

C++ benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
```

```
-opt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh -lsmartheap
```



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECint\_rate2006 = 843

PowerEdge FC430 (Intel Xeon E5-2650 v3, 2.30 GHz)

SPECint\_rate\_base2006 = 805

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Jan-2015

Hardware Availability: Apr-2015

Software Availability: Apr-2015

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32

## 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: -xCORE-AVX2(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: -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 -auto-ilp32 -ansi-alias

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECint\_rate2006 = 843

PowerEdge FC430 (Intel Xeon E5-2650 v3, 2.30 GHz)

SPECint\_rate\_base2006 = 805

CPU2006 license: 55

Test date: Jan-2015

Test sponsor: Dell Inc.

Hardware Availability: Apr-2015

Tested by: Dell Inc.

Software Availability: Apr-2015

## Peak Optimization Flags (Continued)

429.mcf: basepeak = yes

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-ansi-alias -opt-mem-layout-trans=3

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

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 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(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: -xCORE-AVX2(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/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>



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Dell Inc.

SPECint\_rate2006 = 843

PowerEdge FC430 (Intel Xeon E5-2650 v3, 2.30 GHz)

SPECint\_rate\_base2006 = 805

CPU2006 license: 55

Test date: Jan-2015

Test sponsor: Dell Inc.

Hardware Availability: Apr-2015

Tested by: Dell Inc.

Software Availability: Apr-2015

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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Wed Apr 8 11:04:01 2015 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 7 April 2015.