



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Dell Inc.

PowerEdge R630(Intel Xeon E5-2670 v3,  
2.30 GHz)

SPECint®\_rate2006 = 999

SPECint\_rate\_base2006 = 968

CPU2006 license: 55

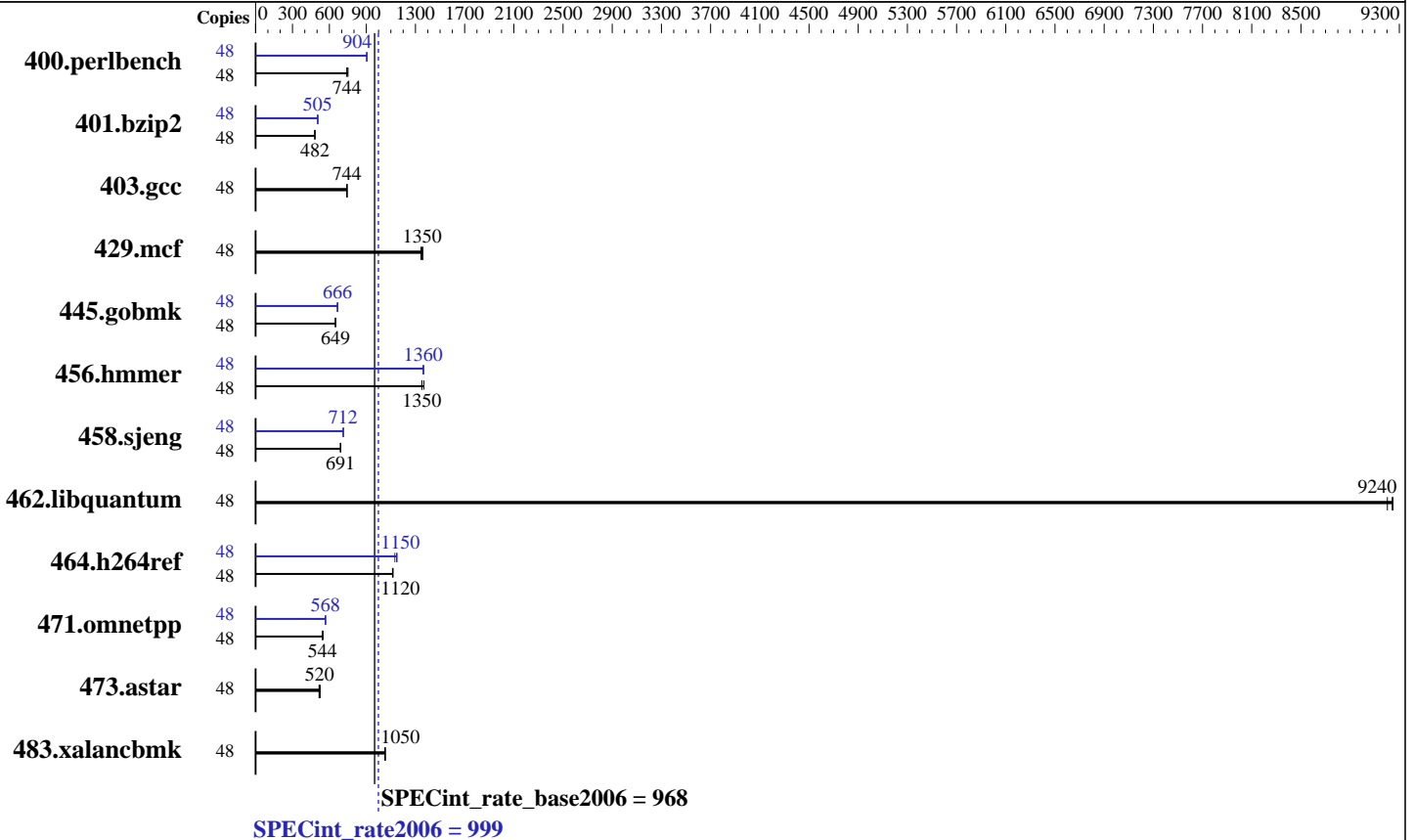
Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Jun-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014



### Hardware

CPU Name: Intel Xeon E5-2670 v3  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.10 GHz  
 CPU MHz: 2300  
 FPU: Integrated  
 CPU(s) enabled: 24 cores, 2 chips, 12 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: 30 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)  
 Disk Subsystem: 1 x 1000 GB 7200 RPM SATA  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64)  
 3.0.76-0.11-default  
 Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux  
 Auto Parallel: No  
 File System: ext2  
 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 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint\_rate2006 = 999

PowerEdge R630(Intel Xeon E5-2670 v3, 2.30 GHz)

SPECint\_rate\_base2006 = 968

CPU2006 license: 55

Test date: Jun-2014

Test sponsor: Dell Inc.

Hardware Availability: Sep-2014

Tested by: Dell Inc.

Software Availability: Sep-2014

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	48	624	751	<b>630</b>	<b>744</b>	632	742	48	518	905	519	904	<b>519</b>	<b>904</b>
401.bzip2	48	<b>960</b>	<b>482</b>	960	482	962	482	48	916	506	<b>917</b>	<b>505</b>	918	505
403.gcc	48	<b>520</b>	<b>744</b>	520	744	521	742	48	<b>520</b>	<b>744</b>	520	744	521	742
429.mcf	48	326	1340	322	1360	<b>323</b>	<b>1350</b>	48	326	1340	322	1360	<b>323</b>	<b>1350</b>
445.gobmk	48	<b>775</b>	<b>649</b>	775	650	775	649	48	758	665	<b>756</b>	<b>666</b>	755	667
456.hammer	48	331	1350	<b>331</b>	<b>1350</b>	327	1370	48	329	1360	<b>328</b>	<b>1360</b>	328	1370
458.sjeng	48	<b>841</b>	<b>691</b>	842	690	840	691	48	<b>815</b>	<b>712</b>	814	714	815	712
462.libquantum	48	108	9250	108	9200	<b>108</b>	<b>9240</b>	48	108	9250	108	9200	<b>108</b>	<b>9240</b>
464.h264ref	48	<b>952</b>	<b>1120</b>	954	1110	951	1120	48	924	1150	<b>926</b>	<b>1150</b>	938	1130
471.omnetpp	48	<b>551</b>	<b>544</b>	547	548	553	543	48	<b>528</b>	<b>568</b>	527	569	529	567
473.astar	48	<b>648</b>	<b>520</b>	642	525	653	516	48	<b>648</b>	<b>520</b>	642	525	653	516
483.xalancbmk	48	314	1050	315	1050	<b>315</b>	<b>1050</b>	48	314	1050	315	1050	<b>315</b>	<b>1050</b>

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  
Execute Disable disabled  
System Profile set to Performance  
Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6818  
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191  
running on linux Thu Jun 19 10:59:48 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 E5-2670 v3 @ 2.30GHz  
2 "physical id"s (chips)  
48 "processors"

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint\_rate2006 = 999

PowerEdge R630(Intel Xeon E5-2670 v3,  
2.30 GHz)

SPECint\_rate\_base2006 = 968

CPU2006 license: 55

Test date: Jun-2014

Test sponsor: Dell Inc.

Hardware Availability: Sep-2014

Tested by: Dell Inc.

Software Availability: Sep-2014

## Platform Notes (Continued)

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 : 12
siblings  : 24
physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
cache size : 15360 KB
```

From /proc/meminfo

```
MemTotal:      264440604 kB
HugePages_Total:    0
Hugepagesize:    2048 kB
```

/usr/bin/lsb\_release -d

```
SUSE Linux Enterprise Server 11 (x86_64)
```

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

```
SuSE-release:
SUSE Linux Enterprise Server 11 (x86_64)
VERSION = 11
PATCHLEVEL = 3
```

uname -a:

```
Linux linux 3.0.76-0.11-default #1 SMP Fri Jun 14 08:21:43 UTC 2013 (ccab990)
x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Jun 19 10:46 last=S

SPEC is set to: /root/cpu2006-1.2

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2        ext2  726G  9.9G  715G   2% /
```

Additional information from dmidecode:

```
BIOS Dell Inc. 0.3.24 06/12/2014
Memory:
16x 002C00B3002C 36ASF2G72PZ-2G1A1 16 GB 2133 MHz
8x Not Specified Not Specified
```

(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 i7-860 CPU + 8GB  
memory using RedHat EL 6.4

Transparent Huge Pages enabled with:

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

Filesystem page cache cleared with:

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org  
http://www.spec.org/



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge R630(Intel Xeon E5-2670 v3,  
2.30 GHz)

**SPECint\_rate2006 = 999**

**SPECint\_rate\_base2006 = 968**

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

**Test date:** Jun-2014  
**Hardware Availability:** Sep-2014  
**Software Availability:** Sep-2014

## General Notes (Continued)

```
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  
  
C++ benchmarks:  
icpc -m32

## 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

## Base Other Flags

C benchmarks:  
403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc -m32  
  
400.perlbench: icc -m64

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge R630(Intel Xeon E5-2670 v3,  
2.30 GHz)

**SPECint\_rate2006 = 999**

**SPECint\_rate\_base2006 = 968**

**CPU2006 license:** 55

**Test sponsor:** Dell Inc.

**Tested by:** Dell Inc.

**Test date:** Jun-2014

**Hardware Availability:** Sep-2014

**Software Availability:** Sep-2014

## Peak Compiler Invocation (Continued)

401.bzip2: `icc -m64`

456.hmmer: `icc -m64`

458.sjeng: `icc -m64`

C++ benchmarks:

`icpc -m32`

## 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: `basepeak = yes`

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`

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Dell Inc.**

**SPECint\_rate2006 = 999**

PowerEdge R630(Intel Xeon E5-2670 v3,  
2.30 GHz)

**SPECint\_rate\_base2006 = 968**

**CPU2006 license:** 55

**Test date:** Jun-2014

**Test sponsor:** Dell Inc.

**Hardware Availability:** Sep-2014

**Tested by:** Dell Inc.

**Software Availability:** Sep-2014

## Peak Optimization Flags (Continued)

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-ic14.0-official-linux64-revC.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-ic14.0-official-linux64-revC.xml>  
<http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revD.xml>

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 Sep 24 16:21:13 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 24 September 2014.