



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint®2006 = 52.2

PowerEdge T620 (Intel Xeon E5-2660 v2, 2.20 GHz)

SPECint\_base2006 = 48.5

CPU2006 license: 55

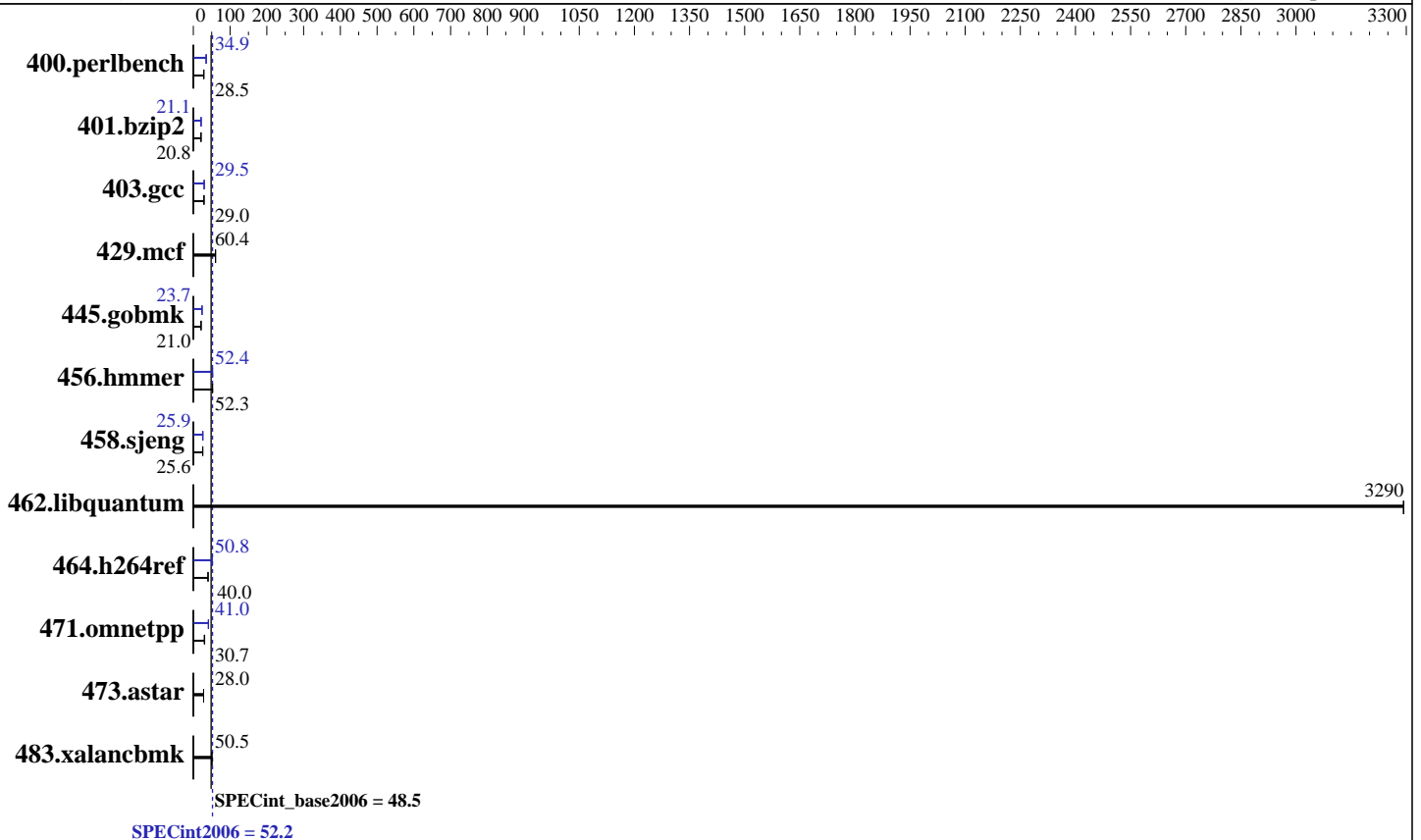
Test date: Sep-2013

Test sponsor: Dell Inc.

Hardware Availability: Sep-2013

Tested by: Dell Inc.

Software Availability: Sep-2013



## Hardware

CPU Name: Intel Xeon E5-2660 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz  
 CPU MHz: 2200  
 FPU: Integrated  
 CPU(s) enabled: 20 cores, 2 chips, 10 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: 25 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 256 GB (16 x 16 GB 2Rx4 PC3-14900R-13, ECC)  
 Disk Subsystem: 1 x 300 GB 15000 RPM SAS  
 Other Hardware: None

## Software

Operating System: SUSE Linux Enterprise Server 11 SP3 (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: Yes  
 File System: ext2  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32/64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V10.0



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint2006 = 52.2

PowerEdge T620 (Intel Xeon E5-2660 v2, 2.20 GHz)

SPECint\_base2006 = 48.5

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

Test date: Sep-2013  
Hardware Availability: Sep-2013  
Software Availability: Sep-2013

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	342	28.5	<b><u>343</u></b>	<b><u>28.5</u></b>	343	28.5	280	34.9	<b><u>280</u></b>	<b><u>34.9</u></b>	280	34.9
401.bzip2	<b><u>463</u></b>	<b><u>20.8</u></b>	463	20.8	464	20.8	<b><u>457</u></b>	<b><u>21.1</u></b>	458	21.1	457	21.1
403.gcc	278	29.0	278	29.0	<b><u>278</u></b>	<b><u>29.0</u></b>	273	29.5	<b><u>273</u></b>	<b><u>29.5</u></b>	273	29.5
429.mcf	151	60.3	<b><u>151</u></b>	<b><u>60.4</u></b>	151	60.4	151	60.3	<b><u>151</u></b>	<b><u>60.4</u></b>	151	60.4
445.gobmk	<b><u>499</u></b>	<b><u>21.0</u></b>	499	21.0	500	21.0	443	23.7	443	23.7	<b><u>443</u></b>	<b><u>23.7</u></b>
456.hammer	<b><u>179</u></b>	<b><u>52.3</u></b>	179	52.2	178	52.4	178	52.5	180	51.9	<b><u>178</u></b>	<b><u>52.4</u></b>
458.sjeng	472	25.6	473	25.6	<b><u>472</u></b>	<b><u>25.6</u></b>	<b><u>468</u></b>	<b><u>25.9</u></b>	468	25.8	468	25.9
462.libquantum	<b><u>6.29</u></b>	<b><u>3290</u></b>	6.29	3290	6.29	3290	<b><u>6.29</u></b>	<b><u>3290</u></b>	6.29	3290	6.29	3290
464.h264ref	553	40.0	<b><u>553</u></b>	<b><u>40.0</u></b>	553	40.0	435	50.9	436	50.8	<b><u>435</u></b>	<b><u>50.8</u></b>
471.omnetpp	<b><u>203</u></b>	<b><u>30.7</u></b>	203	30.8	211	29.6	<b><u>152</u></b>	<b><u>41.0</u></b>	153	40.9	152	41.2
473.astar	251	28.0	<b><u>251</u></b>	<b><u>28.0</u></b>	251	28.0	251	28.0	<b><u>251</u></b>	<b><u>28.0</u></b>	251	28.0
483.xalancbmk	137	50.5	<b><u>137</u></b>	<b><u>50.5</u></b>	137	50.5	137	50.5	<b><u>137</u></b>	<b><u>50.5</u></b>	137	50.5

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

## Operating System Notes

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

## Platform Notes

BIOS settings:  
 Virtualization Technology disabled  
 Execute Disable disabled  
 Logical Processor disabled  
 System Profile set to Performance  
 Sysinfo program /root/cpu2006.1.2.ic13/config/sysinfo.rev6818  
 \$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191  
 running on linux Mon Sep 2 08:39:24 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 E5-2660 v2 @ 2.20GHz
 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
siblings : 10
physical 0: cores 0 1 2 3 4 8 9 10 11 12
```

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint2006 = 52.2

PowerEdge T620 (Intel Xeon E5-2660 v2, 2.20 GHz)

SPECint\_base2006 = 48.5

CPU2006 license: 55

Test date: Sep-2013

Test sponsor: Dell Inc.

Hardware Availability: Sep-2013

Tested by: Dell Inc.

Software Availability: Sep-2013

## Platform Notes (Continued)

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

```
From /proc/meminfo
MemTotal:      264601764 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 Sep 2 08:36 last=S
```

```
SPEC is set to: /root/cpu2006.1.2.ic13
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       ext2  267G   83G  183G  32% /
```

```
Additional information from dmidecode:
BIOS Dell Inc. 2.0.18 08/10/2013
Memory:
2x 00AD00B300AD HMT42GR7MFR4C-RD 16 GB 1866 MHz
12x 00AD04B300AD HMT42GR7AFR4C-RD 16 GB 1866 MHz
2x 00CE00B300CE M393B2G70CB0-CMA 16 GB 1866 MHz
```

(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.ic13/libs/32:/root/cpu2006.1.2.ic13/libs/64:/root/cpu2006.1.2.ic13/sh"  
OMP\_NUM\_THREADS = "20"

```
Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
memory using RHEL5.5
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
```



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint2006 = 52.2

PowerEdge T620 (Intel Xeon E5-2660 v2, 2.20 GHz)

SPECint\_base2006 = 48.5

CPU2006 license: 55

Test date: Sep-2013

Test sponsor: Dell Inc.

Hardware Availability: Sep-2013

Tested by: Dell Inc.

Software Availability: Sep-2013

## 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:

-xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:

-xSSE4.2 -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

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint2006 = 52.2

PowerEdge T620 (Intel Xeon E5-2660 v2, 2.20 GHz)

SPECint\_base2006 = 48.5

CPU2006 license: 55

Test date: Sep-2013

Test sponsor: Dell Inc.

Hardware Availability: Sep-2013

Tested by: Dell Inc.

Software Availability: Sep-2013

## 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: `-xSSE4.2(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: `-xSSE4.2(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: `-xSSE4.2 -ipo -O3 -no-prec-div -inline-calloc -opt-malloc-options=3 -auto-ilp32`

429.mcf: `basepeak = yes`

445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias`

456.hmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32 -ansi-alias`

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint2006 = 52.2

PowerEdge T620 (Intel Xeon E5-2660 v2, 2.20 GHz)

SPECint\_base2006 = 48.5

CPU2006 license: 55

Test date: Sep-2013

Test sponsor: Dell Inc.

Hardware Availability: Sep-2013

Tested by: Dell Inc.

Software Availability: Sep-2013

## Peak Optimization Flags (Continued)

458.sjeng: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2(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: 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/Dell-Platform-Settings-V1.2-revB.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/Dell-Platform-Settings-V1.2-revB.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 Thu Jul 24 18:50:23 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 22 October 2013.