



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

**SPECint®2006 = 54.6**

NovaScale R440 F3 (Intel Xeon E5-2680, 2.70 GHz)

**SPECint\_base2006 = 50.9**

CPU2006 license: 20

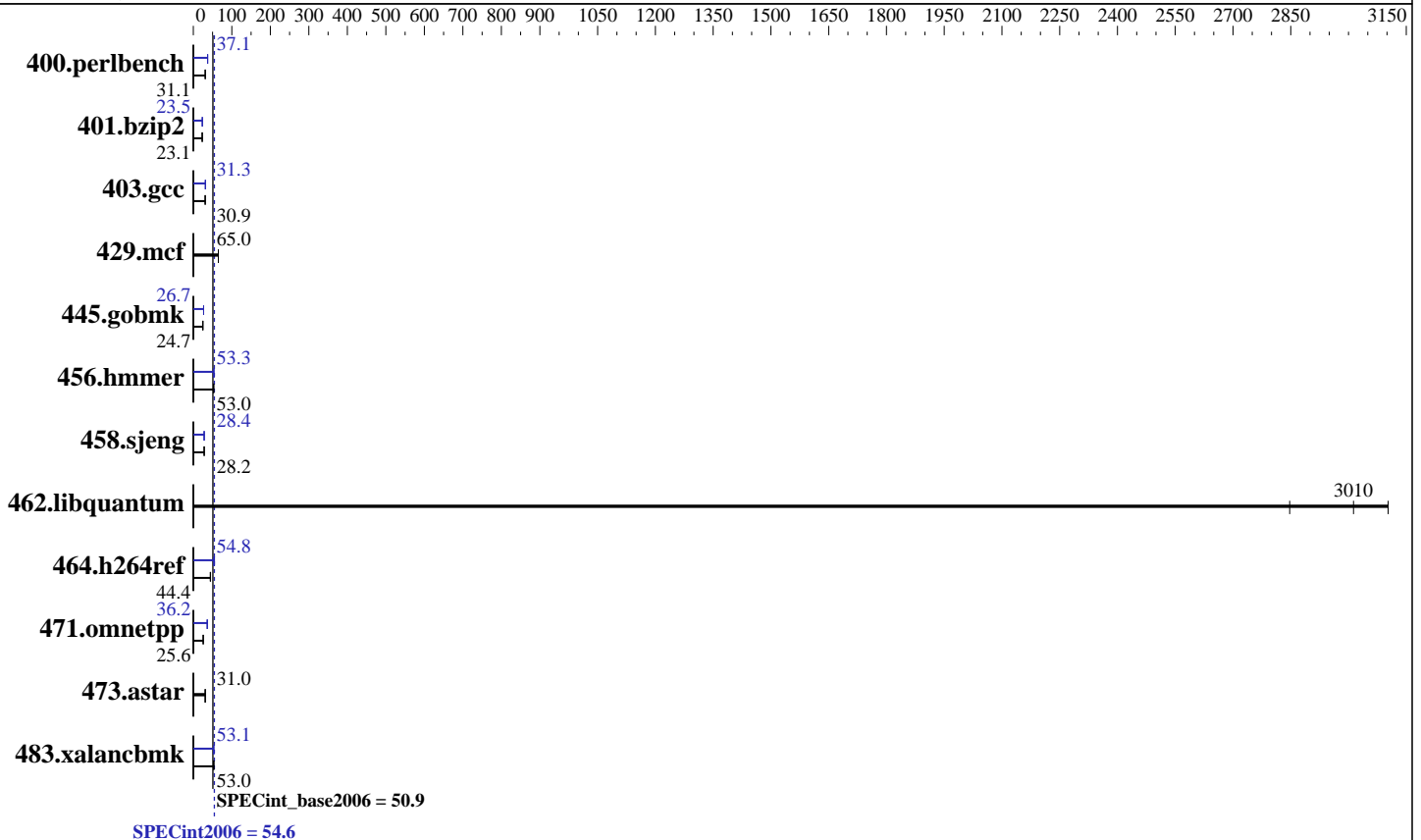
Test date: Feb-2012

Test sponsor: Bull SAS

Hardware Availability: Mar-2012

Tested by: Dell Inc.

Software Availability: Feb-2012



### Hardware

CPU Name: Intel Xeon E5-2680  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz  
 CPU MHz: 2700  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 2 chips, 8 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: 20 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)  
 Disk Subsystem: 2 x 146 GB 15000 RPM SAS, RAID 0  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 11 SP2 (x86\_64) 3.0.13-0.9-default  
 Compiler: C/C++; Version 12.1.0.225 of Intel C++ Studio XE for Linux  
 Auto Parallel: Yes  
 File System: ext3  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32/64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V9.01



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

SPECint2006 = **54.6**

NovaScale R440 F3 (Intel Xeon E5-2680, 2.70 GHz)

SPECint\_base2006 = **50.9**

CPU2006 license: 20  
Test sponsor: Bull SAS  
Tested by: Dell Inc.

Test date: Feb-2012  
Hardware Availability: Mar-2012  
Software Availability: Feb-2012

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	314	31.1	<b>314</b>	<b>31.1</b>	317	30.8	263	37.1	<b>263</b>	<b>37.1</b>	262	37.3
401.bzip2	417	23.1	418	23.1	<b>418</b>	<b>23.1</b>	409	23.6	417	23.1	<b>410</b>	<b>23.5</b>
403.gcc	261	30.8	261	30.9	<b>261</b>	<b>30.9</b>	256	31.5	257	31.3	<b>257</b>	<b>31.3</b>
429.mcf	<b>140</b>	<b>65.0</b>	140	65.0	140	65.0	<b>140</b>	<b>65.0</b>	140	65.0	140	65.0
445.gobmk	<b>424</b>	<b>24.7</b>	424	24.7	424	24.7	392	26.8	394	26.6	<b>392</b>	<b>26.7</b>
456.hammer	176	53.0	<b>176</b>	<b>53.0</b>	177	52.6	175	53.4	175	53.3	<b>175</b>	<b>53.3</b>
458.sjeng	429	28.2	<b>429</b>	<b>28.2</b>	428	28.2	426	28.4	435	27.8	<b>427</b>	<b>28.4</b>
462.libquantum	6.68	3100	<b>6.88</b>	<b>3010</b>	7.28	2850	6.68	3100	<b>6.88</b>	<b>3010</b>	7.28	2850
464.h264ref	502	44.1	<b>498</b>	<b>44.4</b>	495	44.7	402	55.0	<b>404</b>	<b>54.8</b>	421	52.5
471.omnetpp	242	25.8	<b>244</b>	<b>25.6</b>	244	25.6	<b>172</b>	<b>36.2</b>	171	36.5	174	35.9
473.astar	227	30.9	<b>227</b>	<b>31.0</b>	226	31.0	<b>227</b>	<b>30.9</b>	<b>227</b>	<b>31.0</b>	226	31.0
483.xalancbmk	129	53.6	<b>130</b>	<b>53.0</b>	131	52.7	<b>130</b>	<b>53.1</b>	130	53.2	131	52.8

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

```

System Profile set to Custom
CPU Power Management set to Maximum Performance
Memory Frequency set to Maximum Performance
Turbo Boost set to Enabled
C States/C1E set to Enabled
Sysinfo program /root/CPU2006-1.2/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on unsvr Wed Feb 8 11:11:10 2012

```

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 E5-2680 0 @ 2.70GHz
 2 "physical id"s (chips)
 32 "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 : 8
siblings : 16
physical 0: cores 0 1 2 3 4 5 6 7

```

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

**SPECint2006 = 54.6**

NovaScale R440 F3 (Intel Xeon E5-2680, 2.70 GHz)

**SPECint\_base2006 = 50.9**

**CPU2006 license:** 20

**Test sponsor:** Bull SAS

**Tested by:** Dell Inc.

**Test date:** Feb-2012

**Hardware Availability:** Mar-2012

**Software Availability:** Feb-2012

### Platform Notes (Continued)

```
physical 1: cores 0 1 2 3 4 5 6 7
cache size : 20480 KB
```

```
From /proc/meminfo
MemTotal:      132089856 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 = 2
```

```
uname -a:
Linux unsvr 3.0.13-0.9-default #1 SMP Mon Jan 16 17:33:03 UTC 2012 (54ddfaf)
x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Feb 8 11:10 last=S
```

```
SPEC is set to: /root/CPU2006-1.2
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdal        ext3  265G   68G  184G  27% /
```

Additional information from 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 = "/root/CPU2006-1.2/libs/32:/root/CPU2006-1.2/libs/64"
OMP_NUM_THREADS = "16"
```

The Dell PowerEdge R620 and the Bull NovaScale R440 F3 models are electronically equivalent. The results have been measured on a Dell PowerEdge R620 model

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

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



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

SPECint2006 = 54.6

NovaScale R440 F3 (Intel Xeon E5-2680, 2.70 GHz)

SPECint\_base2006 = 50.9

CPU2006 license: 20  
Test sponsor: Bull SAS  
Tested by: Dell Inc.

Test date: Feb-2012  
Hardware Availability: Mar-2012  
Software Availability: Feb-2012

## 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:  
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:  
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -Wl,-z,muldefs  
-L/smartheap -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

**Bull SAS**

**SPECint2006 = 54.6**

NovaScale R440 F3 (Intel Xeon E5-2680, 2.70 GHz)

**SPECint\_base2006 = 50.9**

**CPU2006 license:** 20

**Test date:** Feb-2012

**Test sponsor:** Bull SAS

**Hardware Availability:** Mar-2012

**Tested by:** Dell Inc.

**Software Availability:** Feb-2012

## Peak Compiler Invocation (Continued)

400.perlbench: `icc -m32`

445.gobmk: `icc -m32`

464.h264ref: `icc -m32`

C++ benchmarks (except as noted below):

`icpc -m32`

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`

473.astar: `-DSPEC_CPU_LP64`

483.xalancbmk: `-DSPEC_CPU_LINUX`

## Peak Optimization Flags

C benchmarks:

400.perlbench: `-xAVX(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: `-xAVX(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: `-xAVX -ipo -O3 -no-prec-div -inline-calloc  
-opt-malloc-options=3 -auto-ilp32`

429.mcf: `basepeak = yes`

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

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

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

SPECint2006 = 54.6

NovaScale R440 F3 (Intel Xeon E5-2680, 2.70 GHz)

SPECint\_base2006 = 50.9

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Feb-2012

Hardware Availability: Mar-2012

Software Availability: Feb-2012

## Peak Optimization Flags (Continued)

458.sjeng: -xAVX(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: -xAVX(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: -xAVX(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/smartheap -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias  
-Wl,-z,muldefs -L/smartheap -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-ic12.1-official-linux64.20111122.html>

<http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revA.20120328.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>

<http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revA.20120328.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 03:04:04 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 27 March 2012.