



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R480E1  
(Intel Xeon E7310,1.60GHz)

SPECint®\_rate2006 = 128

SPECint\_rate\_base2006 = 116

CPU2006 license: 20

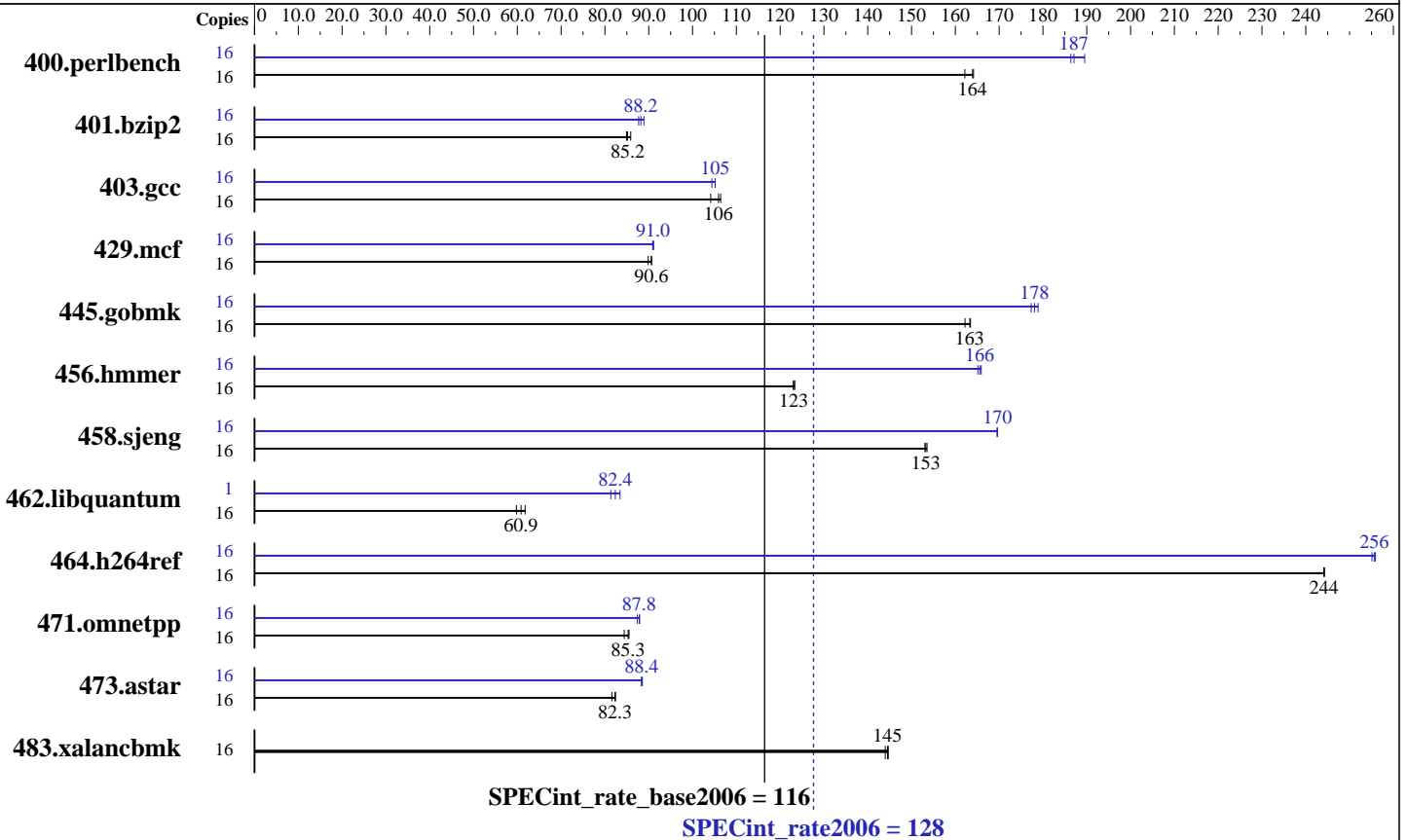
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Dec-2007

Hardware Availability: Dec-2007

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E7310  
 CPU Characteristics: 1.60 GHz, 4 MB L2, 1066 MHz system bus  
 CPU MHz: 1600  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 4 chips, 4 cores/chip  
 CPU(s) orderable: 1 to 4 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 4 MB I+D on chip per chip, 2 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 32 GB (16x2 GB) FB-DIMM PC2-5300F ECC CL5  
 Disk Subsystem: 1x73 GB SAS, 15000 RPM  
 Other Hardware: None

### Software

Operating System: SUSE LINUX Enterprise Server 10 SP1  
 Kernel 2.6.16.46-0.12-smp for x86\_64  
 Compiler: Intel C++ Compiler for Linux32 and Linux64 version 10.1  
 Build 20070725  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Multi-user run level 3  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: SmartHeap library V8.1  
 Binutils 2.17.50.0.15



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R480E1  
(Intel Xeon E7310, 1.60GHz)

SPECint\_rate2006 = 128

SPECint\_rate\_base2006 = 116

CPU2006 license: 20  
Test sponsor: Bull SAS  
Tested by: Bull SAS

Test date: Dec-2007  
Hardware Availability: Dec-2007  
Software Availability: Nov-2007

## Results Table

| Benchmark      | Base   |         |       |             |             |             | Peak        |        |             |             |             |             |             |             |
|----------------|--------|---------|-------|-------------|-------------|-------------|-------------|--------|-------------|-------------|-------------|-------------|-------------|-------------|
|                | Copies | Seconds | Ratio | Seconds     | Ratio       | Seconds     | Ratio       | Copies | Seconds     | Ratio       | Seconds     | Ratio       | Seconds     | Ratio       |
| 400.perlbench  | 16     | 964     | 162   | <b>954</b>  | <b>164</b>  | 952         | 164         | 16     | 839         | 186         | <b>836</b>  | <b>187</b>  | 825         | 190         |
| 401.bzip2      | 16     | 1818    | 84.9  | <b>1813</b> | <b>85.2</b> | 1798        | 85.9        | 16     | 1761        | 87.7        | <b>1751</b> | <b>88.2</b> | 1737        | 88.9        |
| 403.gcc        | 16     | 1210    | 106   | <b>1216</b> | <b>106</b>  | 1237        | 104         | 16     | 1225        | 105         | 1233        | 104         | <b>1225</b> | <b>105</b>  |
| 429.mcf        | 16     | 1610    | 90.7  | 1624        | 89.9        | <b>1611</b> | <b>90.6</b> | 16     | <b>1604</b> | <b>91.0</b> | 1605        | 90.9        | 1601        | 91.1        |
| 445.gobmk      | 16     | 1027    | 163   | 1035        | 162         | <b>1028</b> | <b>163</b>  | 16     | 938         | 179         | <b>942</b>  | <b>178</b>  | 947         | 177         |
| 456.hammer     | 16     | 1210    | 123   | 1214        | 123         | <b>1213</b> | <b>123</b>  | 16     | 904         | 165         | <b>901</b>  | <b>166</b>  | 900         | 166         |
| 458.sjeng      | 16     | 1261    | 154   | 1265        | 153         | <b>1263</b> | <b>153</b>  | 16     | 1142        | 170         | 1141        | 170         | <b>1141</b> | <b>170</b>  |
| 462.libquantum | 16     | 5366    | 61.8  | <b>5447</b> | <b>60.9</b> | 5544        | 59.8        | 1      | <b>252</b>  | <b>82.4</b> | 248         | 83.5        | 255         | 81.3        |
| 464.h264ref    | 16     | 1451    | 244   | 1450        | 244         | <b>1450</b> | <b>244</b>  | 16     | 1384        | 256         | 1388        | 255         | <b>1385</b> | <b>256</b>  |
| 471.omnetpp    | 16     | 1170    | 85.5  | 1185        | 84.4        | <b>1172</b> | <b>85.3</b> | 16     | 1137        | 87.9        | 1144        | 87.4        | <b>1139</b> | <b>87.8</b> |
| 473.astar      | 16     | 1363    | 82.4  | 1377        | 81.6        | <b>1365</b> | <b>82.3</b> | 16     | <b>1271</b> | <b>88.4</b> | 1268        | 88.6        | 1272        | 88.3        |
| 483.xalancbmk  | 16     | 763     | 145   | 767         | 144         | <b>764</b>  | <b>145</b>  | 16     | 763         | 145         | 767         | 144         | <b>764</b>  | <b>145</b>  |

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

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hammer for peak, are compiled in 64-bit mode

/usr/bin/taskset utility used to bind CPU(s) to processes

## General Notes

BIOS settings :  
Hardware Prefetcher : Disabled  
Adjacent Cache-Line Prefetch : Disabled

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R480E1  
(Intel Xeon E7310, 1.60GHz)

SPECint\_rate2006 = 128

SPECint\_rate\_base2006 = 116

CPU2006 license: 20  
Test sponsor: Bull SAS  
Tested by: Bull SAS

Test date: Dec-2007  
Hardware Availability: Dec-2007  
Software Availability: Nov-2007

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:  
-fast -inline-calloc -opt-malloc-options=3  
C++ benchmarks:  
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

## Base Other Flags

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

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc  
401.bzip2: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/include  
456.hmmer: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/include  
C++ benchmarks:  
icpc

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R480E1  
(Intel Xeon E7310, 1.60GHz)

SPECint\_rate2006 = 128

SPECint\_rate\_base2006 = 116

CPU2006 license: 20  
Test sponsor: Bull SAS  
Tested by: Bull SAS

Test date: Dec-2007  
Hardware Availability: Dec-2007  
Software Availability: Nov-2007

## Peak Portability Flags (Continued)

483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias  
-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo  
-no-prec-div -ansi-alias

456.hmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll4 -Ob0 -prefetch  
-opt-streaming-stores always -vec-guard-write  
-opt-malloc-options=3 -parallel -par-runtime-control

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec-div -ansi-alias -opt-ra-region-strategy=block  
-Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
-Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

483.xalancbmk: basepeak = yes



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R480E1  
(Intel Xeon E7310, 1.60GHz)

SPECint\_rate2006 = 128

SPECint\_rate\_base2006 = 116

**CPU2006 license:** 20  
**Test sponsor:** Bull SAS  
**Tested by:** Bull SAS

**Test date:** Dec-2007  
**Hardware Availability:** Dec-2007  
**Software Availability:** Nov-2007

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags file that was used to format this result can be browsed at

[http://www.spec.org/cpu2006/flags/EM64T\\_Intel101\\_flags.html](http://www.spec.org/cpu2006/flags/EM64T_Intel101_flags.html)

You can also download the XML flags source by saving the following link:

[http://www.spec.org/cpu2006/flags/EM64T\\_Intel101\\_flags.xml](http://www.spec.org/cpu2006/flags/EM64T_Intel101_flags.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 v1.0.  
Report generated on Tue Jul 22 16:33:26 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 6 February 2008.