



# SPEC® CINT2006 Result

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Bull SAS

NovaScale T830 E1  
(Intel Xeon X3350, 2.66 GHz)

**SPECint\_rate2006 = 71.8**

**SPECint\_rate\_base2006 = 61.4**

CPU2006 license: 20

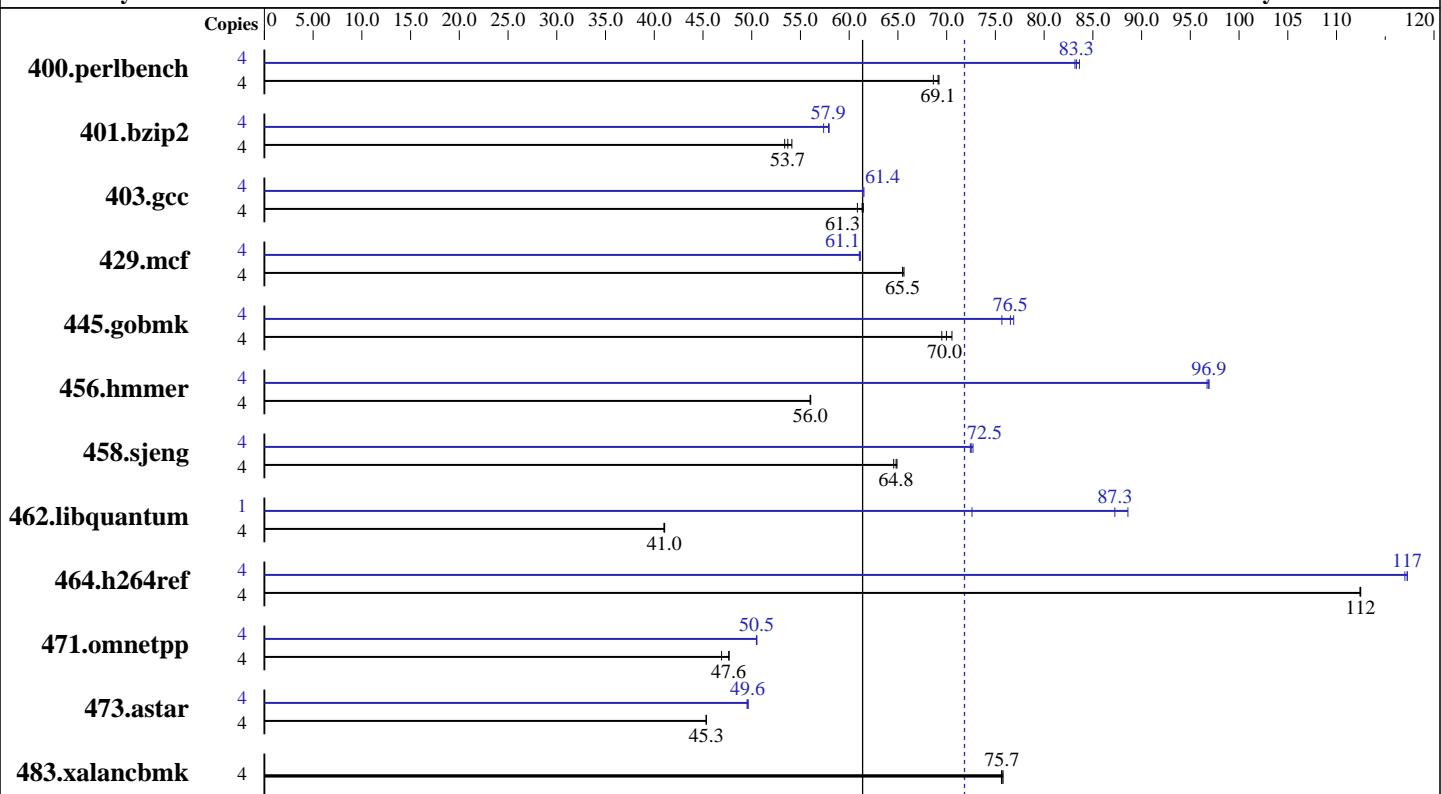
Test sponsor: Bull SAS

Tested by: Bull SAS

**Test date:** Jul-2008

**Hardware Availability:** Jan-2008

**Software Availability:** Nov-2007



**SPECint\_rate\_base2006 = 61.4**

**SPECint\_rate2006 = 71.8**

## Hardware

CPU Name: Intel Xeon X3350  
CPU Characteristics: 1333 MHz system bus  
CPU MHz: 2666  
FPU: Integrated  
CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
CPU(s) orderable: 1 chip  
Primary Cache: 32 KB I + 32 KB D on chip per core  
Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores  
L3 Cache: None  
Other Cache: None  
Memory: 8 GB (4x2 GB) FB-DIMM PC2-6400E ECC CL6  
Disk Subsystem: 1x80 GB SATA, 7200 RPM  
Other Hardware: None

## Software

Operating System: SUSE LINUX Enterprise Server 10 SP1  
Compiler: Kernel 2.6.16.46-0.12-smp for x86\_64  
Auto Parallel: Intel C++ Compiler 10.1 for Linux  
File System: Build 20070913 Package ID: 1\_cc\_p\_10.1.008  
System State: Run level 3 (multi-user)  
Base Pointers: 32-bit  
Peak Pointers: 32/64-bit  
Other Software: Binutils 2.17.50.0.15  
SmartHeap library V8.1



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## Results Table

| Benchmark      | Base   |            |             |            |             |             |             | Peak   |            |             |            |             |            |             |
|----------------|--------|------------|-------------|------------|-------------|-------------|-------------|--------|------------|-------------|------------|-------------|------------|-------------|
|                | Copies | Seconds    | Ratio       | Seconds    | Ratio       | Seconds     | Ratio       | Copies | Seconds    | Ratio       | Seconds    | Ratio       | Seconds    | Ratio       |
| 400.perlbench  | 4      | 565        | 69.2        | 569        | 68.6        | <b>565</b>  | <b>69.1</b> | 4      | <b>469</b> | <b>83.3</b> | 470        | 83.2        | 467        | 83.6        |
| 401.bzip2      | 4      | 723        | 53.4        | <b>719</b> | <b>53.7</b> | 713         | 54.1        | 4      | 666        | 57.9        | <b>667</b> | <b>57.9</b> | 673        | 57.4        |
| 403.gcc        | 4      | 529        | 60.8        | <b>525</b> | <b>61.3</b> | 524         | 61.4        | 4      | 523        | 61.5        | <b>524</b> | <b>61.4</b> | 525        | 61.4        |
| 429.mcf        | 4      | <b>557</b> | <b>65.5</b> | 557        | 65.5        | 556         | 65.6        | 4      | 597        | 61.1        | 598        | 61.0        | <b>597</b> | <b>61.1</b> |
| 445.gobmk      | 4      | 604        | 69.5        | <b>600</b> | <b>70.0</b> | 595         | 70.5        | 4      | <b>548</b> | <b>76.5</b> | 546        | 76.9        | 555        | 75.7        |
| 456.hammer     | 4      | 667        | 56.0        | <b>666</b> | <b>56.0</b> | 666         | 56.1        | 4      | <b>385</b> | <b>96.9</b> | 385        | 96.9        | 386        | 96.7        |
| 458.sjeng      | 4      | 750        | 64.6        | 746        | 64.9        | <b>747</b>  | <b>64.8</b> | 4      | <b>667</b> | <b>72.5</b> | 668        | 72.4        | 666        | 72.7        |
| 462.libquantum | 4      | 2022       | 41.0        | 2018       | 41.1        | <b>2019</b> | <b>41.0</b> | 1      | <b>237</b> | <b>87.3</b> | 285        | 72.6        | 234        | 88.6        |
| 464.h264ref    | 4      | 788        | 112         | 787        | 112         | <b>787</b>  | <b>112</b>  | 4      | 755        | 117         | <b>755</b> | <b>117</b>  | 756        | 117         |
| 471.omnetpp    | 4      | <b>525</b> | <b>47.6</b> | 533        | 46.9        | 524         | 47.7        | 4      | <b>495</b> | <b>50.5</b> | 495        | 50.5        | 495        | 50.5        |
| 473.astar      | 4      | <b>619</b> | <b>45.3</b> | 619        | 45.4        | 619         | 45.3        | 4      | 567        | 49.5        | <b>566</b> | <b>49.6</b> | 566        | 49.6        |
| 483.xalancbmk  | 4      | <b>365</b> | <b>75.7</b> | 365        | 75.6        | 364         | 75.8        | 4      | <b>365</b> | <b>75.7</b> | 365        | 75.6        | 364        | 75.8        |

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

## Operating System Notes

OMP\_NUM\_THREADS set to number of cores

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

## General Notes

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

The Bull NovaScale T810 E1(Intel Xeon X3350, 2.66 GHz), the Bull NovaScale T830 E1(Intel Xeon X3350, 2.66 GHz) and

the Bull NovaScale R410 E1(Intel Xeon X3350, 2.66 GHz) models are electronically equivalent. The results have been measured on a Bull NovaScale R410 E1(Intel Xeon X3350, 2.66 GHz) model.

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc



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## 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/spec/cpu2006/lib -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc

401.bzip2: /opt/intel/cce/10.1.008/bin/icc  
-L/opt/intel/cce/10.1.008/lib  
-I/opt/intel/cce/10.1.008/include

456.hmmr: /opt/intel/cce/10.1.008/bin/icc  
-L/opt/intel/cce/10.1.008/lib  
-I/opt/intel/cce/10.1.008/include

C++ benchmarks:

icpc

## Peak Portability Flags

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

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## 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.hmmr: -fast -unroll12 -ansi-alias -opt-multi-version-aggressive

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

462.libquantum: -fast -unroll14 -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 -unroll12  
-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/spec/cpu2006/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/spec/cpu2006/lib -lsmartheap

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

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## Peak Other Flags (Continued)

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\\_int\\_flags.20090713.00.html](http://www.spec.org/cpu2006/flags/EM64T_Intel101_int_flags.20090713.00.html)

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

[http://www.spec.org/cpu2006/flags/EM64T\\_Intel101\\_int\\_flags.20090713.00.xml](http://www.spec.org/cpu2006/flags/EM64T_Intel101_int_flags.20090713.00.xml)

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