



# SPEC® CINT2006 Result

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## Bull SAS

NovaScale T810 E1  
(Intel Xeon X3350, 2.66 GHz)

SPECint®\_rate2006 = 71.8

SPECint\_rate\_base2006 = 61.4

CPU2006 license: 20

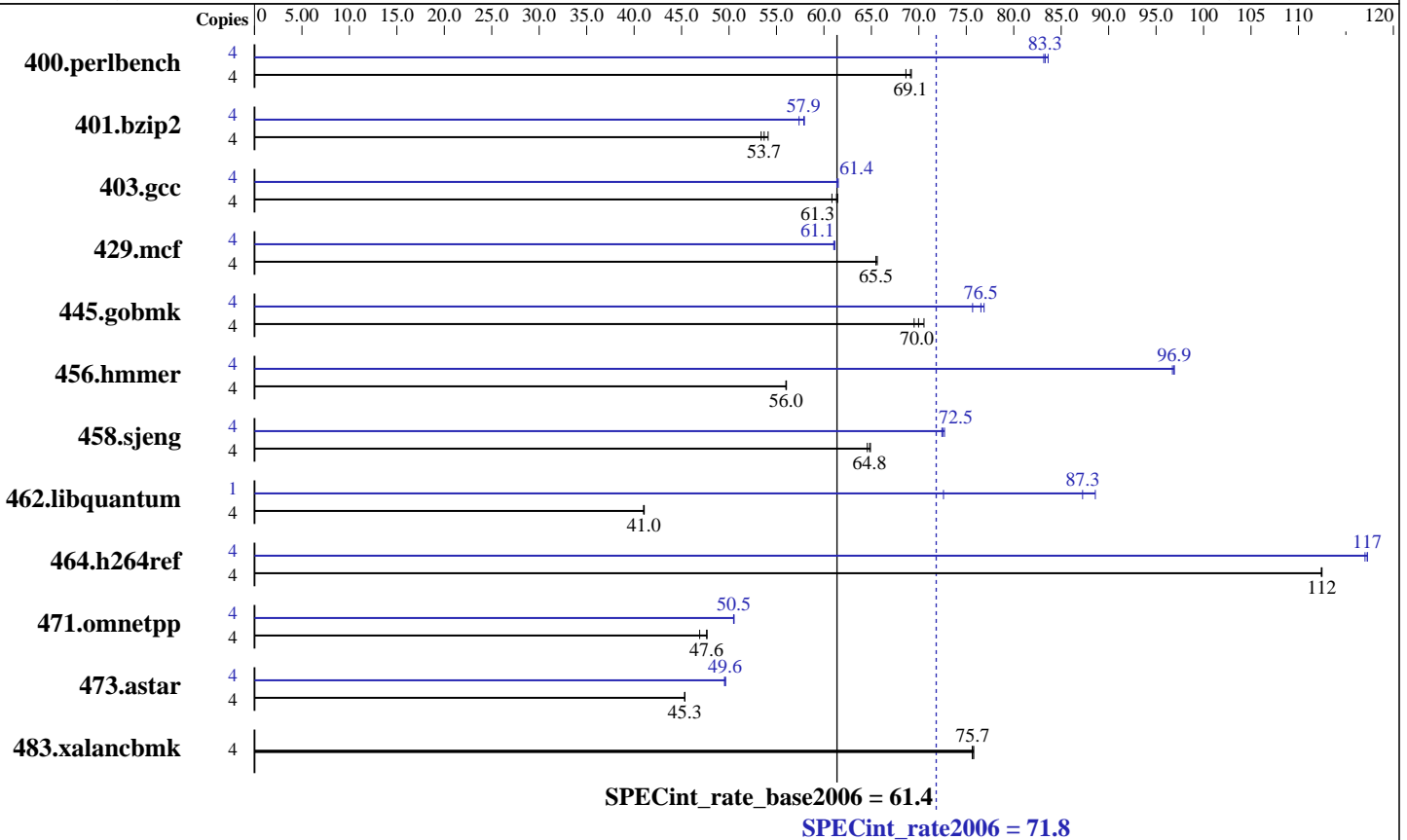
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Jul-2008

Hardware Availability: Jan-2008

Software Availability: Nov-2007



### 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  
 Kernel 2.6.16.46-0.12-smp for x86\_64  
 Compiler: Intel C++ Compiler 10.1 for Linux  
 Build 20070913 Package ID: l\_cc\_p\_10.1.008  
 Auto Parallel: Yes  
 File System: ext2  
 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.hmmer	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.hmmer, 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.hmmmer: /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.hmmmer: -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.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/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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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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