



# SPEC® CINT2006 Result

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## Bull SAS

NovaScale B260+  
(Intel Xeon E5450, 3.00 GHz)

SPECint®2006 = 26.6

SPECint\_base2006 = 23.3

CPU2006 license: 20

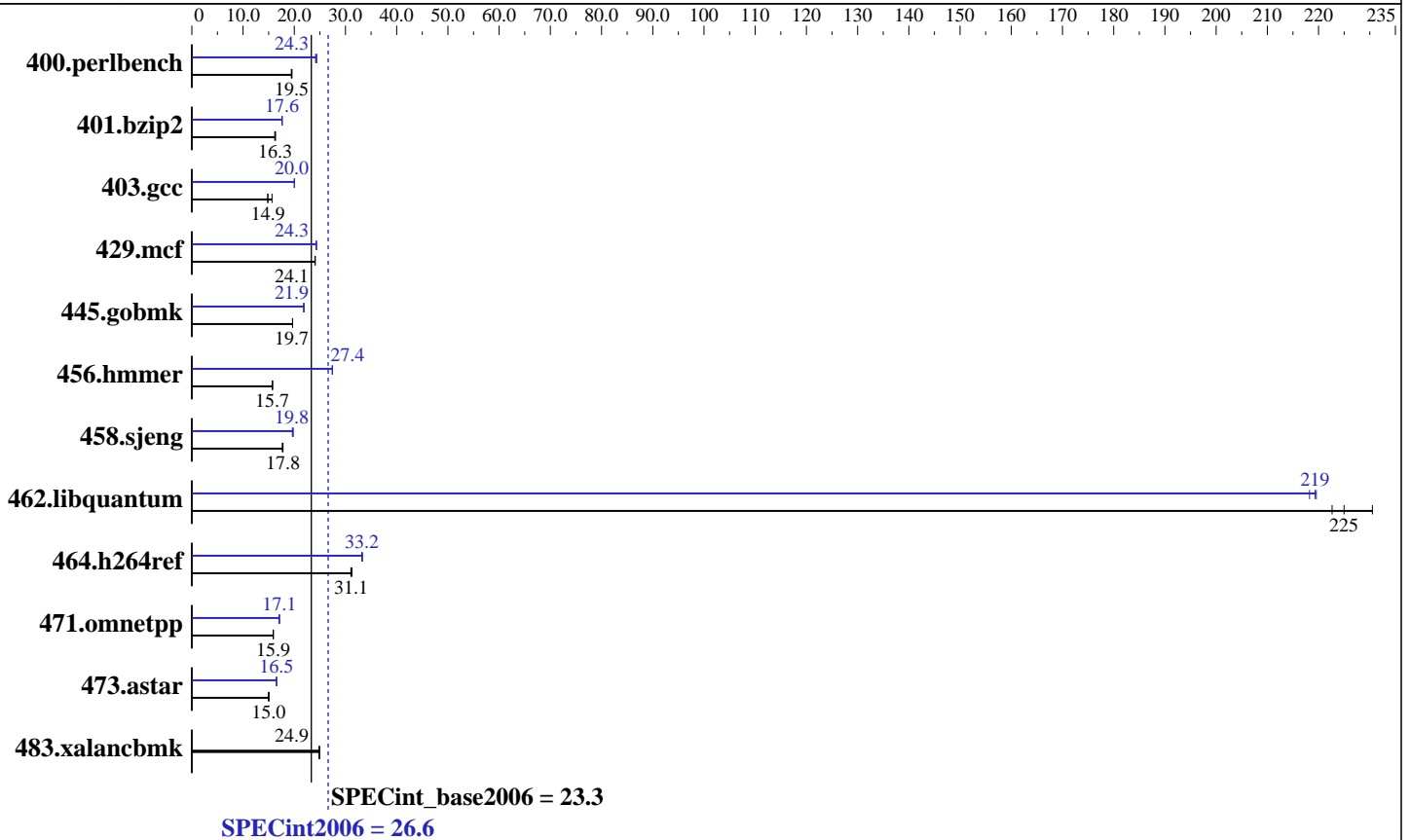
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Jul-2008

Hardware Availability: Jan-2008

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5450  
 CPU Characteristics: 1333 MHz system bus  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1,2 chips  
 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: 16 GB (8x2 GB) FB-DIMM PC2-5300F ECC CL5  
 Disk Subsystem: 1x73 GB SAS, 10000 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	503	19.4	499	19.6	<b><u>501</u></b>	<b><u>19.5</u></b>	404	24.2	401	24.4	<b><u>403</u></b>	<b><u>24.3</u></b>
401.bzip2	591	16.3	<b><u>592</u></b>	<b><u>16.3</u></b>	596	16.2	<b><u>548</u></b>	<b><u>17.6</u></b>	547	17.6	548	17.6
403.gcc	544	14.8	<b><u>542</u></b>	<b><u>14.9</u></b>	514	15.7	<b><u>402</u></b>	<b><u>20.0</u></b>	401	20.1	402	20.0
429.mcf	379	24.0	<b><u>379</u></b>	<b><u>24.1</u></b>	379	24.1	376	24.3	<b><u>375</u></b>	<b><u>24.3</u></b>	375	24.3
445.gobmk	534	19.7	533	19.7	<b><u>533</u></b>	<b><u>19.7</u></b>	479	21.9	480	21.9	<b><u>480</u></b>	<b><u>21.9</u></b>
456.hmmer	<b><u>593</u></b>	<b><u>15.7</u></b>	592	15.8	593	15.7	<b><u>340</u></b>	<b><u>27.4</u></b>	340	27.5	340	27.4
458.sjeng	<b><u>680</u></b>	<b><u>17.8</u></b>	680	17.8	685	17.7	<b><u>613</u></b>	<b><u>19.8</u></b>	612	19.8	616	19.6
462.libquantum	<b><u>92.1</u></b>	<b><u>225</u></b>	89.9	231	93.1	223	94.4	220	94.9	218	<b><u>94.5</u></b>	<b><u>219</u></b>
464.h264ref	708	31.3	713	31.1	<b><u>711</u></b>	<b><u>31.1</u></b>	667	33.2	<b><u>667</u></b>	<b><u>33.2</u></b>	664	33.3
471.omnetpp	<b><u>393</u></b>	<b><u>15.9</u></b>	392	15.9	393	15.9	<b><u>365</u></b>	<b><u>17.1</u></b>	365	17.1	368	17.0
473.astar	466	15.1	469	15.0	<b><u>467</u></b>	<b><u>15.0</u></b>	425	16.5	424	16.5	<b><u>425</u></b>	<b><u>16.5</u></b>
483.xalancbmk	<b><u>277</u></b>	<b><u>24.9</u></b>	278	24.8	277	25.0	<b><u>277</u></b>	<b><u>24.9</u></b>	278	24.8	277	25.0

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  
OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to physical,0  
KMP\_STACKSIZE set to null

## General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer, for peak, are compiled in 64-bit mode  
BIOS settings :  
Hardware Prefetcher : Enabled  
Adjacent Cache-Line Prefetch : Enabled

## 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 -vec-guard-write -parallel -par-runtime-control  
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.xalanbmk: -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  
-auto-ilp32

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.hmmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive  
-auto-ilp32

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 -lsmarheap

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 -lsmarheap

483.xalanbmk: basepeak = yes



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## Peak Other Flags

Same as Base Other Flags

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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