



# SPEC® CINT2006 Result

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## Bull SAS

NovaScale T810 E1  
(Intel Xeon E3110, 3.00 GHz)

SPECint®2006 = 25.3

SPECint\_base2006 = 21.7

CPU2006 license: 20

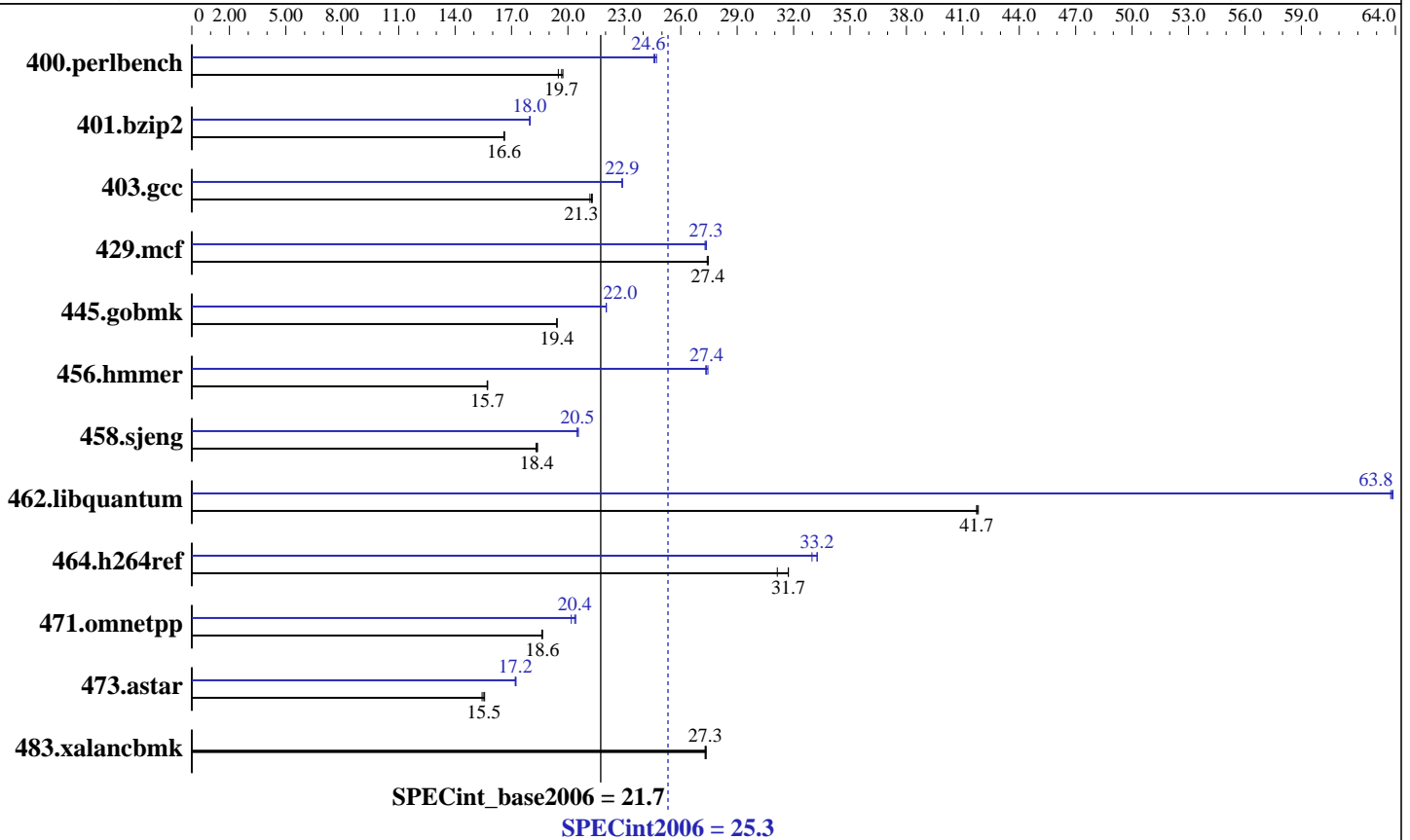
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: May-2008

Hardware Availability: Jan-2008

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E3110  
 CPU Characteristics: 1333 MHz system bus  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1 chip  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 6 MB I+D on chip per chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 8 GB (4x2 GB) FB-DIMM PC2-6400E ECC CL6  
 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 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	495	19.7	501	19.5	<u>497</u>	<u>19.7</u>	<u>397</u>	<u>24.6</u>	395	24.7	398	24.6
401.bzip2	<u>581</u>	<u>16.6</u>	581	16.6	581	16.6	537	18.0	536	18.0	<u>537</u>	<u>18.0</u>
403.gcc	378	21.3	<u>379</u>	<u>21.3</u>	380	21.2	352	22.9	352	22.9	<u>352</u>	<u>22.9</u>
429.mcf	<u>332</u>	<u>27.4</u>	332	27.5	333	27.4	<u>334</u>	<u>27.3</u>	333	27.4	334	27.3
445.gobmk	540	19.4	540	19.4	<u>540</u>	<u>19.4</u>	<u>476</u>	<u>22.0</u>	476	22.0	476	22.0
456.hmmmer	<u>594</u>	<u>15.7</u>	594	15.7	593	15.7	341	27.3	<u>341</u>	<u>27.4</u>	340	27.4
458.sjeng	658	18.4	661	18.3	<u>659</u>	<u>18.4</u>	589	20.6	<u>590</u>	<u>20.5</u>	590	20.5
462.libquantum	495	41.8	496	41.7	<u>496</u>	<u>41.7</u>	325	63.8	<u>325</u>	<u>63.8</u>	324	63.9
464.h264ref	711	31.1	<u>698</u>	<u>31.7</u>	698	31.7	<u>666</u>	<u>33.2</u>	671	33.0	665	33.3
471.omnetpp	<u>335</u>	<u>18.6</u>	336	18.6	335	18.6	306	20.4	<u>307</u>	<u>20.4</u>	310	20.2
473.astar	455	15.4	451	15.6	<u>452</u>	<u>15.5</u>	408	17.2	407	17.2	<u>408</u>	<u>17.2</u>
483.xalancbmk	253	27.3	<u>253</u>	<u>27.3</u>	252	27.4	253	27.3	<u>253</u>	<u>27.3</u>	252	27.4

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.hmmmer, for peak, are compiled in 64-bit mode

The Bull NovaScale T810 E1(Intel Xeon E3110, 3.00 GHz), the Bull NovaScale T830 E1(Intel Xeon E3110, 3.00 GHz) and the Bull NovaScale R410 E1(Intel Xeon E3110, 3.00 GHz) models are electronically equivalent. The results have been measured on a Bull NovaScale T810 E1(Intel Xeon E3110, 3.00 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 -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.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.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.hmmr: -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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