



# SPEC® CINT2006 Result

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## Bull SAS

NovaScale T860 E2  
(Intel Xeon E5504, 2.00 GHz)

SPECint®\_rate2006 = 69.6

SPECint\_rate\_base2006 = 65.0

CPU2006 license: 20

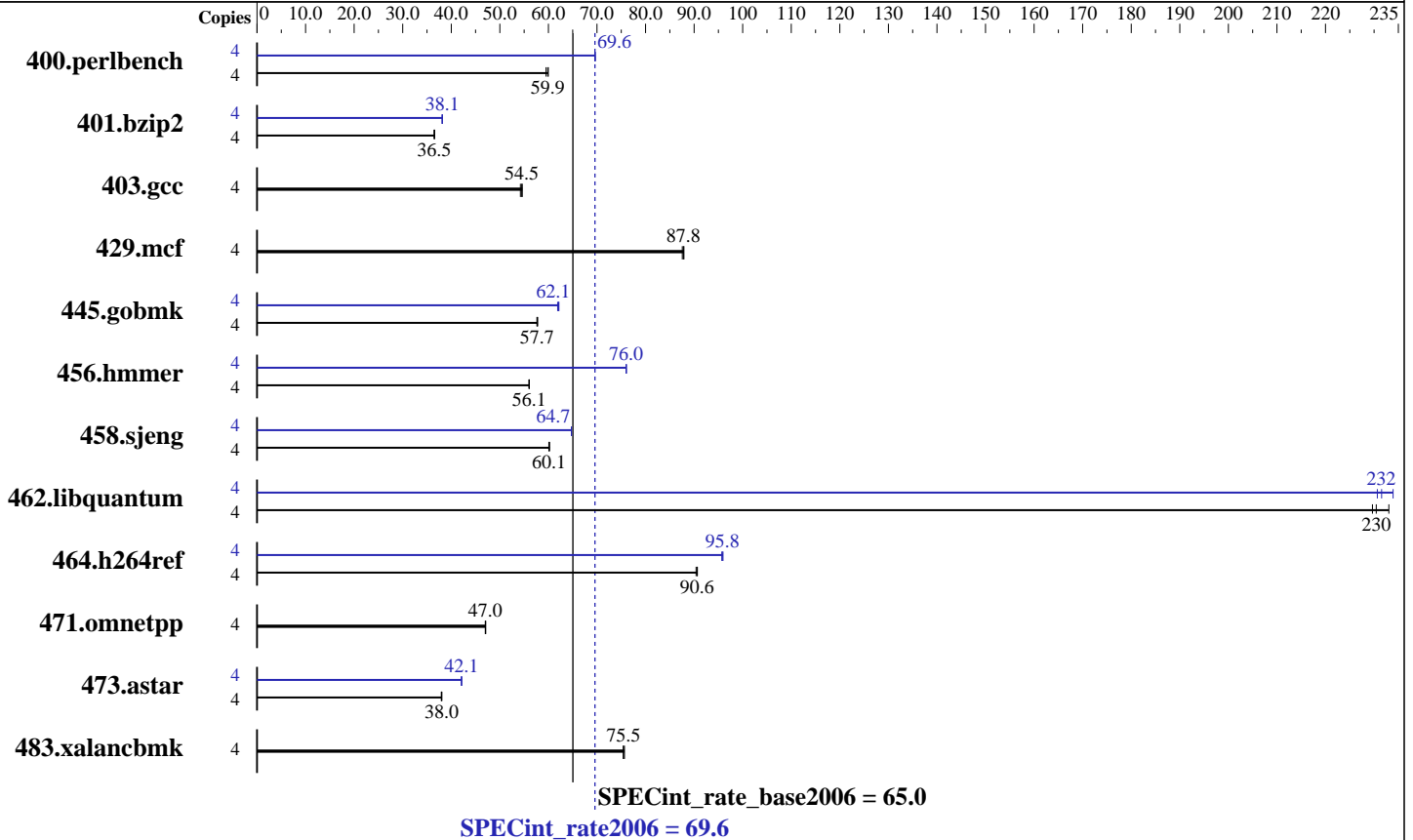
Test sponsor: Bull SAS

Tested by: NEC Corporation

Test date: May-2009

Hardware Availability: Apr-2009

Software Availability: Feb-2009



### Hardware

CPU Name: Intel Xeon E5504  
 CPU Characteristics:  
 CPU MHz: 2000  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core  
 L3 Cache: 4 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 24 GB (6 X 4 GB PC3-8500R running at 800 MHz)  
 Disk Subsystem: 1x73.2 GB SAS, 15000 RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP2 with patch Linux kernel 20090119, Kernel 2.6.16.60-0.34-smp  
 Compiler: Intel C++ Compiler Professional 11.0 for Linux Build 20090131 Package ID: l\_cproc\_p\_11.0.081  
 Auto Parallel: No  
 File System: ReiserFS  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: MicroQuill SmartHeap Library 8.1 Binutils 2.18.50.0.7.20080502



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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	657	59.5	652	60.0	<b>653</b>	<b>59.9</b>	4	561	69.7	562	69.5	<b>561</b>	<b>69.6</b>		
401.bzip2	4	1055	36.6	1058	36.5	<b>1058</b>	<b>36.5</b>	4	1012	38.1	1011	38.2	<b>1012</b>	<b>38.1</b>		
403.gcc	4	594	54.2	590	54.6	<b>591</b>	<b>54.5</b>	4	594	54.2	590	54.6	<b>591</b>	<b>54.5</b>		
429.mcf	4	415	87.9	417	87.6	<b>415</b>	<b>87.8</b>	4	415	87.9	417	87.6	<b>415</b>	<b>87.8</b>		
445.gobmk	4	726	57.8	728	57.7	<b>728</b>	<b>57.7</b>	4	675	62.1	678	61.9	<b>675</b>	<b>62.1</b>		
456.hammer	4	667	56.0	<b>666</b>	<b>56.1</b>	666	56.1	4	<b>491</b>	<b>76.0</b>	491	76.1	491	76.0		
458.sjeng	4	803	60.2	805	60.1	<b>805</b>	<b>60.1</b>	4	747	64.8	<b>748</b>	<b>64.7</b>	748	64.7		
462.libquantum	4	<b>360</b>	<b>230</b>	361	230	356	233	4	<b>358</b>	<b>232</b>	354	234	359	231		
464.h264ref	4	976	90.7	<b>977</b>	<b>90.6</b>	979	90.4	4	925	95.7	923	95.9	<b>924</b>	<b>95.8</b>		
471.omnetpp	4	531	47.1	532	47.0	<b>532</b>	<b>47.0</b>	4	531	47.1	532	47.0	<b>532</b>	<b>47.0</b>		
473.astar	4	740	37.9	738	38.0	<b>738</b>	<b>38.0</b>	4	<b>667</b>	<b>42.1</b>	666	42.1	667	42.1		
483.xalancbmk	4	365	75.7	<b>366</b>	<b>75.5</b>	366	75.4	4	365	75.7	<b>366</b>	<b>75.5</b>	366	75.4		

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

## Submit Notes

The config file option 'submit' was used.  
numactl was used to bind copies to the cores

## Operating System Notes

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

## Platform Notes

Default BIOS settings were used.

## General Notes

The NEC Express5800/T120a-M(Intel Xeon E5504) and the Bull NovaScale T860 E2 (Intel Xeon E5504, 2.00 GHz) models are electronically equivalent. The results have been measured on a NEC Express5800/T120a-M(Intel Xeon E5504) 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:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc  
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/opt/SmartHeap\_8.1/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/Compiler/11.0/081/bin/intel64/icc  
456.hmmer: /opt/intel/Compiler/11.0/081/bin/intel64/icc  
458.sjeng: /opt/intel/Compiler/11.0/081/bin/intel64/icc

C++ benchmarks (except as noted below):  
icpc

473.astar: /opt/intel/Compiler/11.0/081/bin/intel64/icpc

## Peak Portability Flags

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

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## Peak Portability Flags (Continued)

458.sjeng: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX  
473.astar: -DSPEC\_CPU\_LP64  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

### C benchmarks:

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -ansi-alias -opt-prefetch

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32

403.gcc: basepeak = yes

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2  
-ipo -no-prec-div -ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2  
-ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static  
-opt-malloc-options=3 -opt-prefetch

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -unroll2 -ansi-alias

### C++ benchmarks:

471.omnetpp: basepeak = yes

473.astar: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-ansi-alias -opt-ra-region-strategy=routine -auto-ilp32  
-Wl,-z,muldefs -L/opt/SmartHeap\_8.1/lib64 -lsmartheap64

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## Peak Optimization Flags (Continued)

483.xalanbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revF.html>

<http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revE.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revF.xml>

<http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revE.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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