



# SPEC® CINT2006 Result

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## Bull SAS

NovaScale R440  
(Intel Xeon processor E5335,2.00GHz)

SPECint®2006 = 15.5

SPECint\_base2006 = 14.1

CPU2006 license: 20

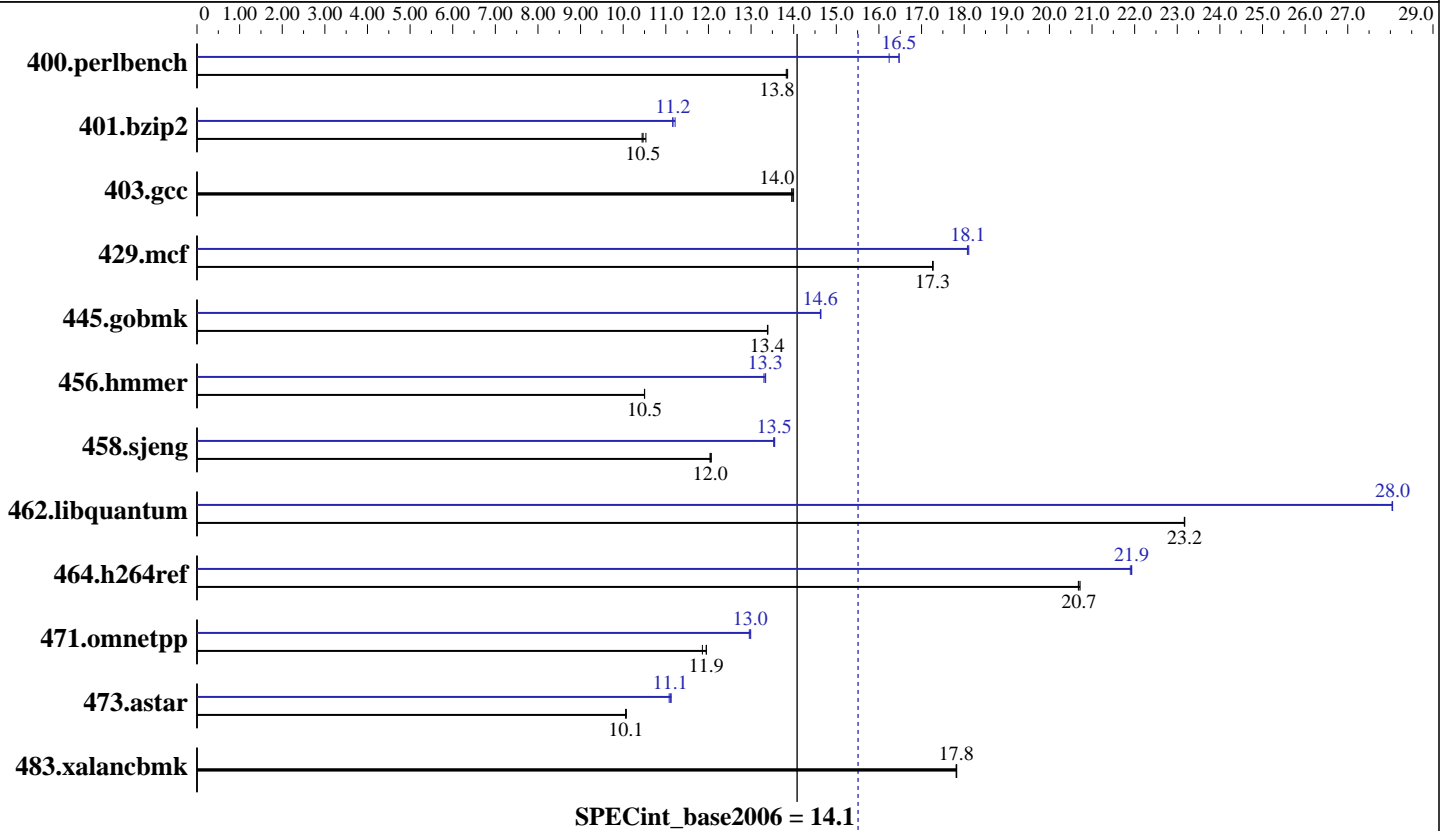
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Jul-2007

Hardware Availability: Mar-2007

Software Availability: May-2007



### Hardware

CPU Name: Intel Xeon E5335  
 CPU Characteristics: 2.00 GHz, 8 MB L2, 1333 MHz system bus  
 CPU MHz: 2000  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1 to 2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 8 MB I+D on chip per chip, 4 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 12 GB (12x1 GB) FB-DIMM PC2-4200F ECC CL4  
 Disk Subsystem: 1x73 GB SAS, 15000 RPM  
 Other Hardware: None

### Software

Operating System: SUSE LINUX Enterprise Server 10  
 Kernel 2.6.16.21-0.8-smp for x86\_64  
 Compiler: Intel C++ Compiler for Linux32 and Linux64 version 10.0  
 Build 20070426 Package ID: 1\_cc\_p\_10.0.023  
 Auto Parallel: No  
 File System: ext2  
 System State: Multi-user run level 3  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: SmartHeap library V8.1  
 Binutils 2.17.50.0.15



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	705	13.9	707	13.8	<b><u>706</u></b>	<b><u>13.8</u></b>	593	16.5	<b><u>593</u></b>	<b><u>16.5</u></b>	602	16.2
401.bzip2	924	10.4	916	10.5	<b><u>922</u></b>	<b><u>10.5</u></b>	860	11.2	<b><u>864</u></b>	<b><u>11.2</u></b>	865	11.2
403.gcc	<b><u>576</u></b>	<b><u>14.0</u></b>	577	14.0	575	14.0	<b><u>576</u></b>	<b><u>14.0</u></b>	577	14.0	575	14.0
429.mcf	528	17.3	528	17.3	<b><u>528</u></b>	<b><u>17.3</u></b>	504	18.1	<b><u>504</u></b>	<b><u>18.1</u></b>	505	18.1
445.gobmk	784	13.4	<b><u>784</u></b>	<b><u>13.4</u></b>	783	13.4	<b><u>717</u></b>	<b><u>14.6</u></b>	717	14.6	717	14.6
456.hmmer	889	10.5	888	10.5	<b><u>889</u></b>	<b><u>10.5</u></b>	701	13.3	<b><u>700</u></b>	<b><u>13.3</u></b>	699	13.3
458.sjeng	1003	12.1	1005	12.0	<b><u>1005</u></b>	<b><u>12.0</u></b>	893	13.6	894	13.5	<b><u>893</u></b>	<b><u>13.5</u></b>
462.libquantum	894	23.2	<b><u>894</u></b>	<b><u>23.2</u></b>	894	23.2	739	28.1	<b><u>739</u></b>	<b><u>28.0</u></b>	739	28.0
464.h264ref	1070	20.7	1068	20.7	<b><u>1070</u></b>	<b><u>20.7</u></b>	1009	21.9	<b><u>1009</u></b>	<b><u>21.9</u></b>	1011	21.9
471.omnetpp	527	11.9	523	12.0	<b><u>523</u></b>	<b><u>11.9</u></b>	<b><u>482</u></b>	<b><u>13.0</u></b>	481	13.0	482	13.0
473.astar	<b><u>698</u></b>	<b><u>10.1</u></b>	698	10.1	697	10.1	634	11.1	<b><u>632</u></b>	<b><u>11.1</u></b>	631	11.1
483.xalancbmk	387	17.8	387	17.8	<b><u>387</u></b>	<b><u>17.8</u></b>	387	17.8	387	17.8	<b><u>387</u></b>	<b><u>17.8</u></b>

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

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

## General Notes

The NovaScale R440 and the NovaScale R460 models are electronically equivalent.  
The results have been measured on a NovaScale R460 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

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/10.0.023/bin/icc  
-L/opt/intel/cce/10.0.023/lib  
-I/opt/intel/cce/10.0.023/include

456.hmmer: /opt/intel/cce/10.0.023/bin/icc  
-L/opt/intel/cce/10.0.023/lib  
-I/opt/intel/cce/10.0.023/include

C++ benchmarks:  
icpc

## Peak Portability Flags

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

403.gcc: basepeak = yes

429.mcf: -fast -prefetch

445.gobmk: -prof\_gen(pass 1) -prof\_use(pass 2) -xT -O2 -ipo  
-no-prec\_div -ansi-alias

456.hmmer: -prof\_gen(pass 1) -prof\_use(pass 2) -fast -unroll2  
-ansi-alias

458.sjeng: -prof\_gen(pass 1) -prof\_use(pass 2) -fast -unroll4

462.libquantum: -prof\_gen(pass 1) -prof\_use(pass 2) -fast -unroll4 -Ob0  
-prefetch -opt-streaming-stores always

464.h264ref: Same as 456.hmmer

C++ benchmarks:

471.omnetpp: -prof\_gen(pass 1) -prof\_use(pass 2) -xT -O3 -ipo  
-no-prec\_div -ansi-alias -Wl,-z,muldefs  
-L/spec/cpu2006/lib -lsmartheap

473.astar: Same as 471.omnetpp

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca



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The flags file that was used to format this result can be browsed at  
[http://www.spec.org/cpu2006/flags/EM64T\\_Intel100\\_flags.20090714.html](http://www.spec.org/cpu2006/flags/EM64T_Intel100_flags.20090714.html)

You can also download the XML flags source by saving the following link:  
[http://www.spec.org/cpu2006/flags/EM64T\\_Intel100\\_flags.20090714.xml](http://www.spec.org/cpu2006/flags/EM64T_Intel100_flags.20090714.xml)

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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