



# SPEC® CINT2006 Result

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## Bull SAS

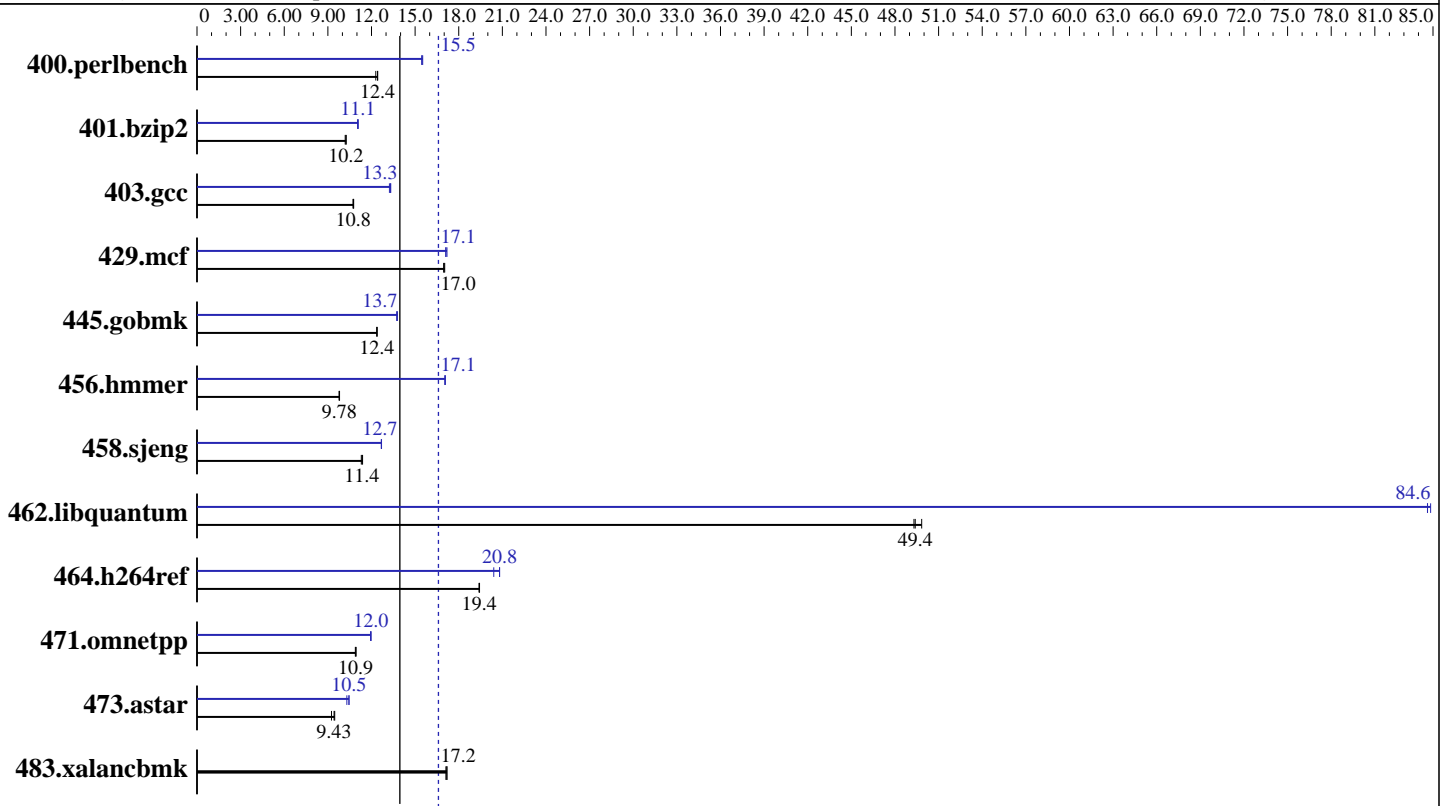
NovaScale R440 E1  
(Intel Xeon E5205, 1.86GHz)

SPECint®2006 = 16.6

SPECint\_base2006 = 14.0

CPU2006 license: 20  
Test sponsor: Bull SAS  
Tested by: NEC Corporation

Test date: Feb-2008  
Hardware Availability: Jan-2008  
Software Availability: Nov-2007



SPECint\_base2006 = 14.0

SPECint2006 = 16.6

### Hardware

CPU Name: Intel Xeon E5205  
 CPU Characteristics: 1.86 GHz, 6 MB L2, 1066 MHz bus  
 CPU MHz: 1867  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 CPU(s) orderable: 1,2 chips  
 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: 12 GB (12x1 GB PC2-5300F, 2 rank, CL5-5-5, ECC)  
 Disk Subsystem: 1x73.2 GB SAS, 15000RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP1, Kernel 2.6.16.46-0.12-smp  
 Compiler: Intel C++ Compiler for Linux32 and Linux64 version 10.1 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: MicroQuill SmartHeap library 8.1 binutils-2.17.tar.gz, Version 2.17



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<b>787</b>	<b>12.4</b>	787	12.4	795	12.3	629	15.5	<b>632</b>	<b>15.5</b>	632	15.5
401.bzip2	947	10.2	941	10.3	<b>942</b>	<b>10.2</b>	871	11.1	874	11.0	<b>872</b>	<b>11.1</b>
403.gcc	751	10.7	<b>748</b>	<b>10.8</b>	747	10.8	604	13.3	608	13.2	<b>605</b>	<b>13.3</b>
429.mcf	538	17.0	<b>537</b>	<b>17.0</b>	535	17.0	<b>533</b>	<b>17.1</b>	533	17.1	531	17.2
445.gobmk	<b>847</b>	<b>12.4</b>	848	12.4	847	12.4	763	13.7	761	13.8	<b>763</b>	<b>13.7</b>
456.hmmer	<b>954</b>	<b>9.78</b>	952	9.80	954	9.78	547	17.1	<b>547</b>	<b>17.1</b>	546	17.1
458.sjeng	1071	11.3	<b>1066</b>	<b>11.4</b>	1063	11.4	<b>954</b>	<b>12.7</b>	953	12.7	955	12.7
462.libquantum	<b>419</b>	<b>49.4</b>	420	49.3	416	49.8	245	84.6	244	84.8	<b>245</b>	<b>84.6</b>
464.h264ref	<b>1139</b>	<b>19.4</b>	1141	19.4	1139	19.4	1084	20.4	1064	20.8	<b>1064</b>	<b>20.8</b>
471.omnetpp	574	10.9	<b>572</b>	<b>10.9</b>	571	10.9	<b>523</b>	<b>12.0</b>	522	12.0	524	11.9
473.astar	759	9.25	741	9.47	<b>745</b>	<b>9.43</b>	681	10.3	<b>672</b>	<b>10.5</b>	672	10.5
483.xalancbmk	402	17.2	<b>402</b>	<b>17.2</b>	403	17.1	402	17.2	<b>402</b>	<b>17.2</b>	403	17.1

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

## Platform Notes

Bios settings:  
Intel SpeedStep Technology: Disabled

## General Notes

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

The NEC Express5800/120Rh-1(Intel Xeon Processor E5205), the NEC Express5800/120Rj-2(Intel Xeon Processor E5205), the Bull NovaScale R440 E1 (Intel Xeon E5205,1.86GHz) and the Bull NovaScale R460 E1 (Intel Xeon E5205,1.86GHz) models are electronically equivalent. The results have been measured on a NEC Express5800/120Rj-2(Intel Xeon Processor E5205) model.

## Base Compiler Invocation

C benchmarks:  
icc

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## Base Compiler Invocation (Continued)

C++ benchmarks:  
icpc

## 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/opt/SmartHeap\_8.1/lib -lsmarheap

## 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.hmmer: /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



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## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX  
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  
-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.hmmer: -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/opt/SmartHeap\_8.1/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/opt/SmartHeap\_8.1/lib -lsmartheap  
483.xalancbmk: basepeak = yes



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## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-FP-intel64-linux-flags.20090713.01.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-FP-intel64-linux-flags.20090713.01.xml>

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

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