



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

SPECint®2006 = 22.1

NovaScale R440 F2 (Intel Xeon E5503, 2.00 GHz)

SPECint\_base2006 = 20.7

CPU2006 license: 20

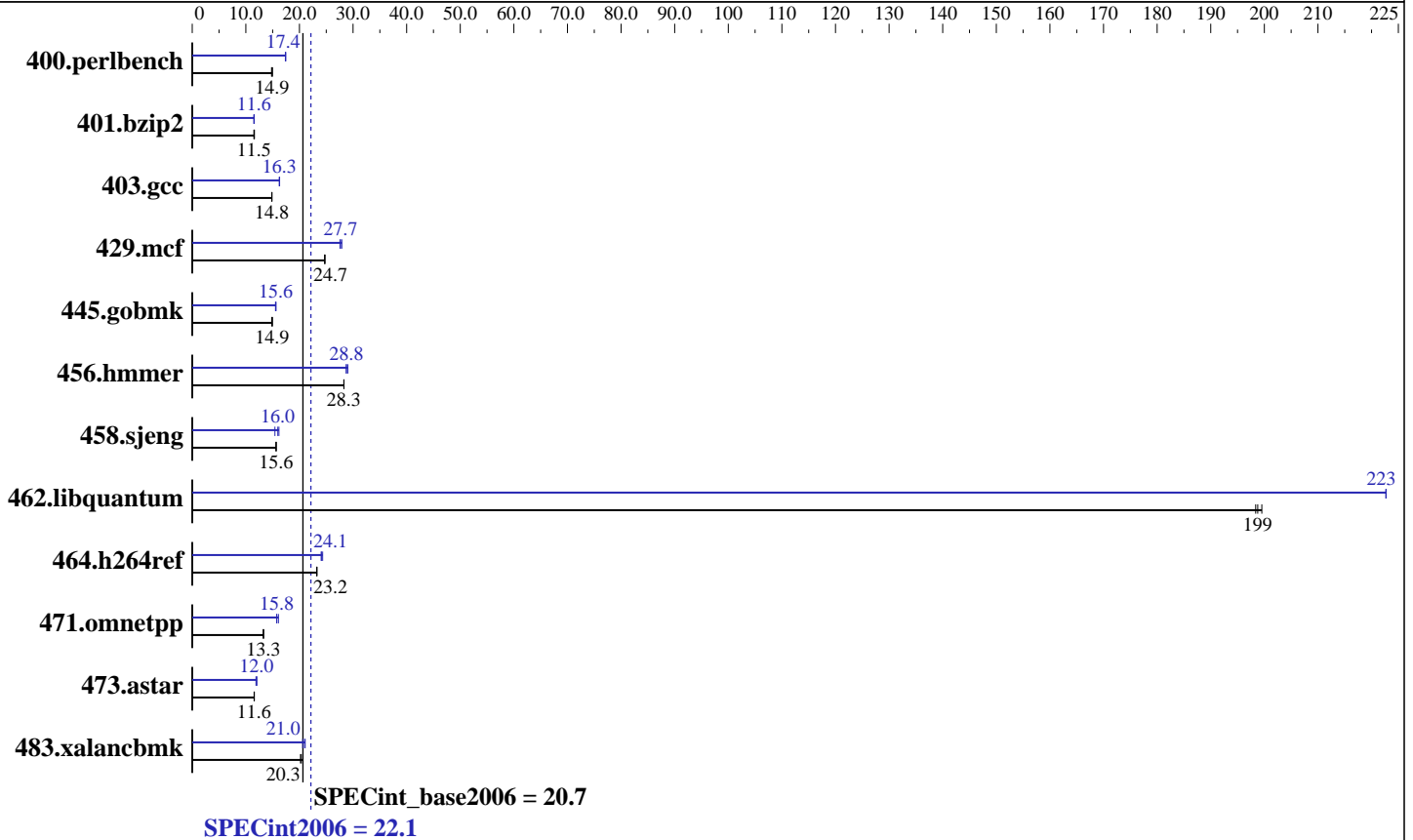
Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: May-2010

Hardware Availability: Mar-2010

Software Availability: Dec-2009



### Hardware

CPU Name: Intel Xeon E5503  
 CPU Characteristics:  
 CPU MHz: 2000  
 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: 256 KB I+D on chip per core  
 L3 Cache: 4 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 48 GB (12 x 4 GB DDR3-1333 DR RDIMM, CL9, ECC, downclocked to 800 MHz)  
 Disk Subsystem: 1 x 146 GB 15000 RPM SAS  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64), Kernel 2.6.27.19-5-smp  
 Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1  
 Build 20091130 Package ID: l\_cproc\_p\_11.1.064  
 Auto Parallel: Yes  
 File System: ext3  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V8.1



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

SPECint2006 = **22.1**

NovaScale R440 F2 (Intel Xeon E5503, 2.00 GHz)

SPECint\_base2006 = **20.7**

CPU2006 license: 20  
Test sponsor: Bull SAS  
Tested by: Dell Inc.

Test date: May-2010  
Hardware Availability: Mar-2010  
Software Availability: Dec-2009

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	660	14.8	<b>656</b>	<b>14.9</b>	653	15.0	<b>562</b>	<b>17.4</b>	562	17.4	560	17.5
401.bzip2	832	11.6	<b>836</b>	<b>11.5</b>	838	11.5	834	11.6	<b>835</b>	<b>11.6</b>	840	11.5
403.gcc	541	14.9	<b>542</b>	<b>14.8</b>	543	14.8	494	16.3	495	16.3	<b>495</b>	<b>16.3</b>
429.mcf	369	24.7	<b>369</b>	<b>24.7</b>	369	24.7	<b>329</b>	<b>27.7</b>	331	27.6	327	27.9
445.gobmk	<b>702</b>	<b>14.9</b>	702	14.9	708	14.8	<b>673</b>	<b>15.6</b>	672	15.6	675	15.5
456.hammer	<b>330</b>	<b>28.3</b>	330	28.3	330	28.3	<b>324</b>	<b>28.8</b>	321	29.0	325	28.7
458.sjeng	774	15.6	773	15.6	<b>773</b>	<b>15.6</b>	785	15.4	748	16.2	<b>758</b>	<b>16.0</b>
462.libquantum	104	198	104	200	<b>104</b>	<b>199</b>	93.0	223	<b>93.0</b>	<b>223</b>	93.0	223
464.h264ref	<b>953</b>	<b>23.2</b>	951	23.3	953	23.2	919	24.1	910	24.3	<b>919</b>	<b>24.1</b>
471.omnetpp	470	13.3	471	13.3	<b>471</b>	<b>13.3</b>	397	15.8	<b>396</b>	<b>15.8</b>	389	16.1
473.astar	608	11.5	<b>607</b>	<b>11.6</b>	606	11.6	590	11.9	<b>584</b>	<b>12.0</b>	583	12.0
483.xalancbmk	342	20.2	<b>339</b>	<b>20.3</b>	334	20.6	335	20.6	327	21.1	<b>329</b>	<b>21.0</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

## Platform Notes

BIOS Settings:  
Power Management = Maximum Performance (Default = Active Power Controller)

## General Notes

OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to granularity=fine,scatter  
Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502  
The Dell PowerEdge R610 and  
the Bull NovaScale R440 F2 models are electronically equivalent.  
The results have been measured on a Dell PowerEdge R610 model.

## Base Compiler Invocation

C benchmarks:  
icc -m64

C++ benchmarks:  
icpc -m64



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Bull SAS**

**SPECint2006 = 22.1**

NovaScale R440 F2 (Intel Xeon E5503, 2.00 GHz)

**SPECint\_base2006 = 20.7**

**CPU2006 license:** 20

**Test sponsor:** Bull SAS

**Tested by:** Dell Inc.

**Test date:** May-2010

**Hardware Availability:** Mar-2010

**Software Availability:** Dec-2009

## Base Portability Flags

```

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

```

## Base Optimization Flags

C benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch`

C++ benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64`

## Base Other Flags

C benchmarks:

`403.gcc: -Dalloca=_alloca`

## Peak Compiler Invocation

C benchmarks (except as noted below):

`icc -m64`

`400.perlbench: icc -m32`

`429.mcf: icc -m32`

`445.gobmk: icc -m32`

`464.h264ref: icc -m32`

C++ benchmarks (except as noted below):

`icpc -m32`

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Bull SAS**

**SPECint2006 = 22.1**

NovaScale R440 F2 (Intel Xeon E5503, 2.00 GHz)

**SPECint\_base2006 = 20.7**

CPU2006 license: 20

Test date: May-2010

Test sponsor: Bull SAS

Hardware Availability: Mar-2010

Tested by: Dell Inc.

Software Availability: Dec-2009

## Peak Compiler Invocation (Continued)

473.astar: icpc -m64

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
 401.bzip2: -DSPEC\_CPU\_LP64  
 403.gcc: -DSPEC\_CPU\_LP64  
 456.hmmer: -DSPEC\_CPU\_LP64  
 458.sjeng: -DSPEC\_CPU\_LP64  
 462.libquantum: -DSPEC\_CPU\_LP64 -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 -static(pass 2) -prof-use(pass 2)  
 -auto-ilp32 -opt-prefetch -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc  
 -opt-malloc-options=3 -auto-ilp32

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

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

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -parallel  
 -opt-prefetch -par-schedule-static=32768 -ansi-alias

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

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**Bull SAS**

**SPECint2006 = 22.1**

NovaScale R440 F2 (Intel Xeon E5503, 2.00 GHz)

**SPECint\_base2006 = 20.7**

**CPU2006 license:** 20

**Test sponsor:** Bull SAS

**Tested by:** Dell Inc.

**Test date:** May-2010

**Hardware Availability:** Mar-2010

**Software Availability:** Dec-2009

## Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: -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=block -Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap

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 -Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64

483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch  
-Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap

## 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/Intel-ic11.1-linux64-revE.20100330.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100330.xml>

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.1.  
Report generated on Wed Jul 23 09:14:06 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 9 June 2010.