



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

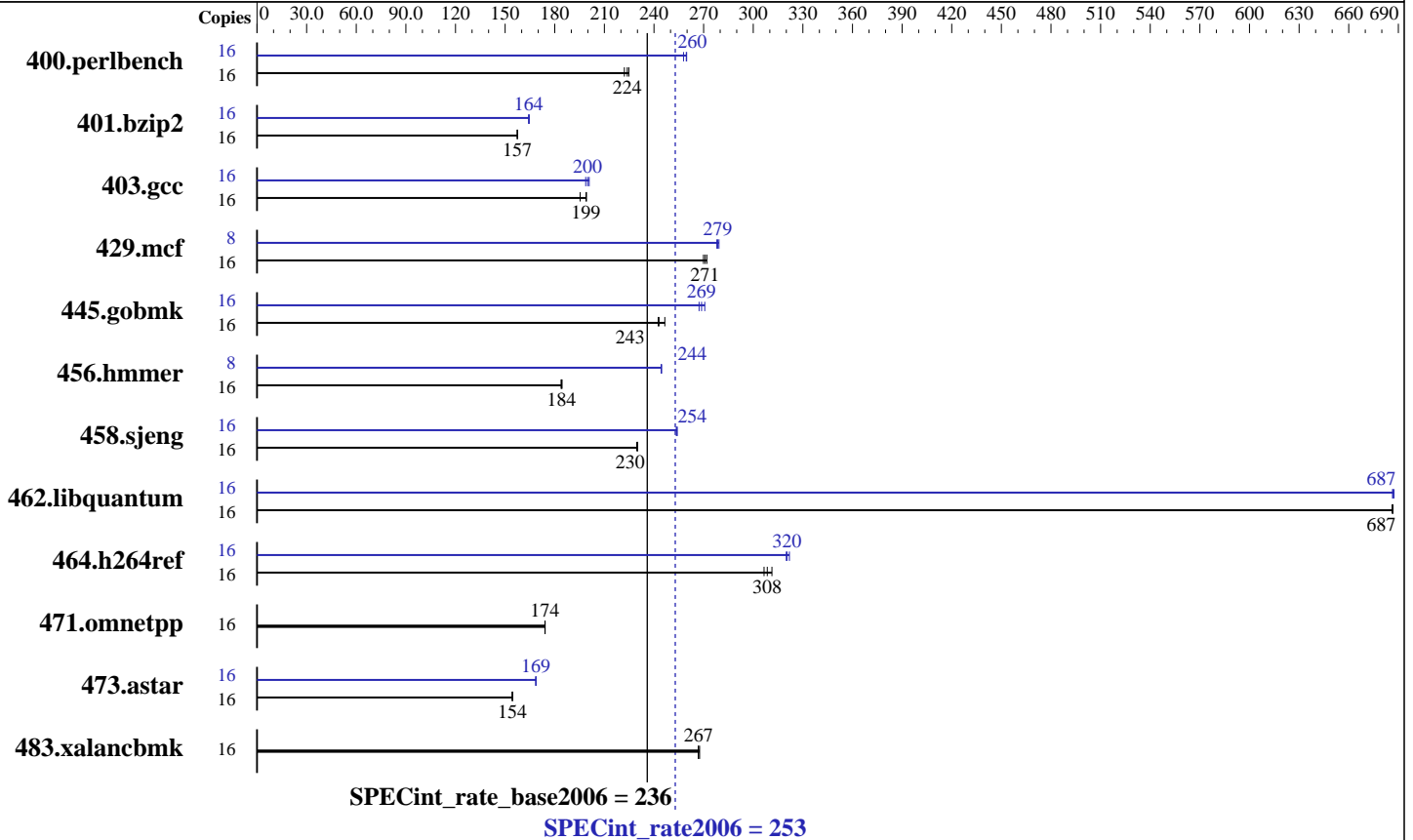
NovaScale R440 E2  
(Intel Xeon X5570, 2.93 GHz)

SPECint®\_rate2006 = 253

SPECint\_rate\_base2006 = 236

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

Test date: Apr-2009  
Hardware Availability: Apr-2009  
Software Availability: Feb-2009



### Hardware

CPU Name: Intel Xeon X5570  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz  
 CPU MHz: 2933  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core  
 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: 8 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 48 GB (12 X 4 GB PC3-8500R, 2 rank, CL7, ECC)  
 Disk Subsystem: 1x146.5 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 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



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R440 E2  
(Intel Xeon X5570, 2.93 GHz)

SPECint\_rate2006 = 253

SPECint\_rate\_base2006 = 236

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

Test date: Apr-2009  
Hardware Availability: Apr-2009  
Software Availability: Feb-2009

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	16	<b>698</b>	<b>224</b>	704	222	695	225	16	<b>602</b>	<b>260</b>	606	258	602	260
401.bzip2	16	981	157	981	157	<b>981</b>	<b>157</b>	16	940	164	938	165	<b>940</b>	<b>164</b>
403.gcc	16	647	199	<b>648</b>	<b>199</b>	659	195	16	641	201	<b>644</b>	<b>200</b>	648	199
429.mcf	16	537	272	<b>539</b>	<b>271</b>	541	270	8	261	279	262	278	<b>262</b>	<b>279</b>
445.gobmk	16	<b>691</b>	<b>243</b>	681	247	692	243	16	620	271	<b>624</b>	<b>269</b>	628	267
456.hammer	16	809	184	812	184	<b>811</b>	<b>184</b>	8	305	244	<b>305</b>	<b>244</b>	305	245
458.sjeng	16	843	230	<b>842</b>	<b>230</b>	841	230	16	<b>763</b>	<b>254</b>	764	253	762	254
462.libquantum	16	483	686	<b>483</b>	<b>687</b>	483	687	16	<b>483</b>	<b>687</b>	483	687	482	687
464.h264ref	16	<b>1148</b>	<b>308</b>	1155	307	1137	311	16	1107	320	<b>1105</b>	<b>320</b>	1100	322
471.omnetpp	16	<b>574</b>	<b>174</b>	574	174	575	174	16	<b>574</b>	<b>174</b>	574	174	575	174
473.astar	16	727	155	729	154	<b>727</b>	<b>154</b>	16	666	169	666	169	<b>666</b>	<b>169</b>
483.xalancbmk	16	413	268	<b>414</b>	<b>267</b>	414	267	16	413	268	<b>414</b>	<b>267</b>	414	267

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

BIOS setting:  
NUMA configuration: Enabled

## General Notes

The NEC Express5800/R120a-1(Intel Xeon X5570),  
the NEC Express5800/R120a-2(Intel Xeon X5570),  
the Bull NovaScale R440 E2 (Intel Xeon X5570, 2.93 GHz) and  
the Bull NovaScale R460 E2 (Intel Xeon X5570, 2.93 GHz) models are electronically equivalent.  
The results have been measured on a NEC Express5800/R120a-1(Intel Xeon X5570) model.

## Base Compiler Invocation

C benchmarks:  
icc

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R440 E2  
(Intel Xeon X5570, 2.93 GHz)

SPECint\_rate2006 = 253

SPECint\_rate\_base2006 = 236

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

Test date: Apr-2009  
Hardware Availability: Apr-2009  
Software Availability: Feb-2009

## 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:  
-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



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R440 E2  
(Intel Xeon X5570, 2.93 GHz)

SPECint\_rate2006 = 253

SPECint\_rate\_base2006 = 236

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

**Test date:** Apr-2009  
**Hardware Availability:** Apr-2009  
**Software Availability:** Feb-2009

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64  
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: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc  
-opt-malloc-options=3

429.mcf: -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

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

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Bull SAS

NovaScale R440 E2  
(Intel Xeon X5570, 2.93 GHz)

SPECint\_rate2006 = 253

SPECint\_rate\_base2006 = 236

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

**Test date:** Apr-2009  
**Hardware Availability:** Apr-2009  
**Software Availability:** Feb-2009

## Peak Optimization Flags (Continued)

```
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
```

483.xalancbmk: 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.20090710.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.20090710.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 00:52:59 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 5 May 2009.