



# SPEC® CINT2006 Result

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## Bull SAS

NovaScale R440 F2  
(Intel Xeon E5504, 2.00 GHz)

SPECint®\_rate2006 = 142

SPECint\_rate\_base2006 = 133

CPU2006 license: 20

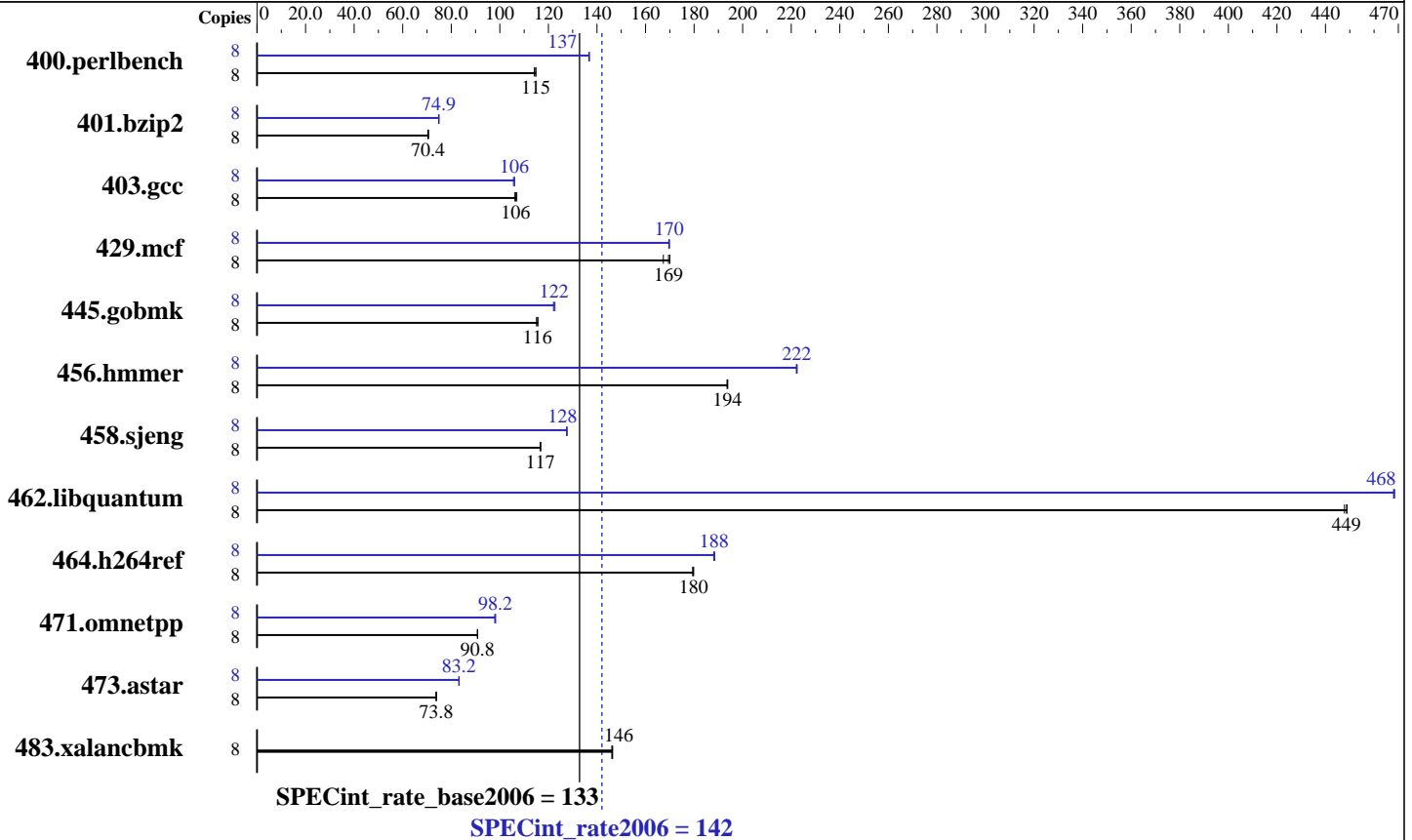
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: May-2010

Hardware Availability: Jan-2010

Software Availability: Dec-2009



### Hardware

CPU Name: Intel Xeon E5504  
 CPU Characteristics:  
 CPU MHz: 2000  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 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: 48 GB (12 x 4 GB PC3-10600R, 2 Rank, CL9-9-9, ECC, running at 800 MHz)  
 Disk Subsystem: 1 x 73 GB SAS, 10000 RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64), Kernel 2.6.27.19-5-default  
 Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: 1\_cproc\_p\_11.1.064  
 Auto Parallel: No  
 File System: ext3  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V8.1



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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  | 8      | <b>681</b> | <b>115</b>  | 681        | 115         | 684         | 114         | 8      | <b>571</b> | <b>137</b> | 571        | 137        | 572         | 137         |
| 401.bzip2      | 8      | 1092       | 70.7        | 1097       | 70.4        | <b>1097</b> | <b>70.4</b> | 8      | 1032       | 74.8       | 1030       | 74.9       | <b>1031</b> | <b>74.9</b> |
| 403.gcc        | 8      | 606        | 106         | <b>605</b> | <b>106</b>  | 602         | 107         | 8      | <b>607</b> | <b>106</b> | 610        | 106        | 607         | 106         |
| 429.mcf        | 8      | 436        | 167         | <b>431</b> | <b>169</b>  | 429         | 170         | 8      | 430        | 170        | 430        | 170        | <b>430</b>  | <b>170</b>  |
| 445.gobmk      | 8      | <b>726</b> | <b>116</b>  | 729        | 115         | 725         | 116         | 8      | <b>686</b> | <b>122</b> | 687        | 122        | 684         | 123         |
| 456.hammer     | 8      | 386        | 194         | <b>385</b> | <b>194</b>  | 385         | 194         | 8      | 336        | 222        | 336        | 222        | <b>336</b>  | <b>222</b>  |
| 458.sjeng      | 8      | 829        | 117         | <b>829</b> | <b>117</b>  | 829         | 117         | 8      | 758        | 128        | <b>759</b> | <b>128</b> | 759         | 128         |
| 462.libquantum | 8      | 370        | 448         | 369        | 449         | <b>369</b>  | <b>449</b>  | 8      | <b>354</b> | <b>468</b> | 354        | 468        | 354         | 468         |
| 464.h264ref    | 8      | <b>985</b> | <b>180</b>  | 985        | 180         | 987         | 179         | 8      | 939        | 188        | 941        | 188        | <b>940</b>  | <b>188</b>  |
| 471.omnetpp    | 8      | <b>551</b> | <b>90.8</b> | 551        | 90.8        | 551         | 90.8        | 8      | 509        | 98.2       | 511        | 97.9       | <b>509</b>  | <b>98.2</b> |
| 473.astar      | 8      | 760        | 73.9        | <b>761</b> | <b>73.8</b> | 762         | 73.7        | 8      | 676        | 83.1       | 674        | 83.3       | <b>675</b>  | <b>83.2</b> |
| 483.xalancbmk  | 8      | <b>377</b> | <b>146</b>  | 378        | 146         | 377         | 146         | 8      | <b>377</b> | <b>146</b> | 378        | 146        | 377         | 146         |

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

## General Notes

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 Bull NovaScale R440 F2 model.

## Base Compiler Invocation

C benchmarks:  
icc -m32  
  
C++ benchmarks:  
icpc -m32



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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 -opt-prefetch

C++ benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.icl1.1/libic11.1-32bit -lsmartheap

## Base Other Flags

C benchmarks:  
403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc -m32

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

462.libquantum: icc -m64

C++ benchmarks (except as noted below):  
icpc -m32

473.astar: icpc -m64

## Peak Portability Flags

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

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## Peak Portability Flags (Continued)

456.hmmcr: -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  
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  
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.hmmcr: -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 -auto-ilp32  
-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: -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

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## Peak Optimization Flags (Continued)

473.astar (continued):  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64  
483.xalancbmk: basepeak = yes

## 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.20100511.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.20100511.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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