### Bull SAS

NovaScale R422  
(Intel Xeon processor 5160, 3.00GHz)

**SPECint®2006 = 21.0**  
**SPECint_base2006 = 19.0**

<table>
<thead>
<tr>
<th>SPEC Benchmark</th>
<th>SPECint®2006 Value</th>
<th>SPECint_base2006 Value</th>
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<tbody>
<tr>
<td>400.perlbench</td>
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</tr>
<tr>
<td>473.astar</td>
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<td>24.7</td>
</tr>
</tbody>
</table>

**Hardware**

- **CPU Name:** Intel Xeon 5160  
- **CPU Characteristics:** 3.00 GHz, 4 MB L2, 1333 MHz system bus  
- **CPU MHz:** 3000  
- **FPU:** Integrated  
- **CPU(s) enabled:** 4 cores, 2 chips, 2 cores/chip  
- **CPU(s) orderable:** 1 to 2 chips  
- **Primary Cache:** 32 KB I + 32 KB D on chip per core  
- **Secondary Cache:** 4 MB I+D on chip per chip  
- **L3 Cache:** None  
- **Other Cache:** None  
- **Memory:** 8 GB (8x1 GB) FB-DIMM FC2-5300F ECC CL5  
- **Disk Subsystem:** 1x73 GB SAS, 15000 RPM  
- **Other Hardware:** None

**Software**

- **Operating System:** SUSE LINUX Enterprise Server 10  
- **Compiler:** Intel C++ Compiler for Linux32 version 10.0  
- **Auto Parallel:** No  
- **File System:** ext3  
- **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

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<tr>
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Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

General Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
The R422 is built with two identical (half size) motherboards. Only one of the two motherboards was powered on during the test run.
All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer, for peak, are compiled in 64-bit mode

Base Compiler Invocation

C benchmarks:
   icc

C++ benchmarks:
   icpc

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX
SPEC CINT2006 Result

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SPECint2006 = 21.0
SPECint_base2006 = 19.0

CPU2006 license: 20
Test date: Sep-2007
Test sponsor: Bull SAS
Hardware Availability: Aug-2007
Tested by: Bull SAS
Software Availability: Aug-2007

Base Optimization Flags

C benchmarks:
- -fast

C++ benchmarks:
- -xT -ipo -03 -no-prec-div -Wl,-z,muldefs
- -L/tmp/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/10.0.026/bin/icc
    -L/opt/intel/cce/10.0.026/lib
    -I/opt/intel/cce/10.0.026/include
  - 456.hmmer: /opt/intel/cce/10.0.026/bin/icc
    -L/opt/intel/cce/10.0.026/lib
    -I/opt/intel/cce/10.0.026/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
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

Continued on next page
SPEC CINT2006 Result

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Peak Optimization Flags (Continued)

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.spjeng: -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/tmp/spec/cpu2006/lib -lsmartheap

473.astar: Same as 471.omnetpp

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/EM64T_Intel100_flags.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/EM64T_Intel100_flags.xml
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For questions about this result, please contact the tester. 
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.0.  
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