Bull SAS

novascale bullion (Intel Xeon X7560, 2.27 GHz)

**SPECint** rate2006 = 760

**SPECint_rate_base2006** = 711

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

**Test date:** Jul-2010
**Hardware Availability:** Apr-2010
**Software Availability:** Apr-2010

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**Hardware**

**CPU Name:** Intel Xeon X7560
**CPU Characteristics:** Intel Turbo Boost Technology up to 2.67 GHz
**CPU MHz:** 2266
**FPU:** Integrated
**CPU(s) enabled:** 32 cores, 4 chips, 8 cores/chip, 2 threads/core
**CPU(s) orderable:** 2,4 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:** 24 MB I+D on chip per chip
**Other Cache:** None
**Memory:** 256 GB (32 x 8 GB DDR3-1067 QR RDIMM, CL7, ECC)
**Disk Subsystem:** 1 x 250 GB 7200 RPM SATA, 4 x 160 GB Intel SSD
**Other Hardware:** None

**Software**

**Operating System:** Red Hat Enterprise Linux Server release 5.5, Kernel 2.6.18-194.el5
**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:** 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
**SPEC CINT2006 Result**

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<table>
<thead>
<tr>
<th>Benchmark</th>
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<th>Ratio</th>
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Results Table

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 Bull novascale bullion and the Bull bullx S6030 models are electronically equivalent.
The results have been measured on a novascale bullion 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

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)

- DSPEC_CPU_LP64
- DSPEC_CPU_LP64
- DSPEC_CPU_LP64
- DSPEC_CPU_LINUX
- DSPEC_CPU_LP64
- DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(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)
-03(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 -03 -no-prec-div -static

429.mcf: -xSSE4.2 -ipo -03 -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 -03 -no-prec-div -static -unroll2
-ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -static(pass 2)
-prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: -xSSE4.2 -ipo -03 -no-prec-div -static -auto-ilp32
-opt-prefetch

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(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)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs

473.astar: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(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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<table>
<thead>
<tr>
<th>SPECint_rate2006</th>
<th>760</th>
</tr>
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<tbody>
<tr>
<td>SPECint_rate_base2006</td>
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</table>

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Peak Optimization Flags (Continued)

473.astar (continued):

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

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

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For other inquiries, please contact webmaster@spec.org.

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