Bull SAS
NovaScale R480 F2 (Intel Xeon E7530, 1.87 GHz)

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

Test date: Apr-2011
Hardware Availability: Jul-2011

Software Availability: Jan-2011

Hardware

<table>
<thead>
<tr>
<th>Test</th>
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<tbody>
<tr>
<td>400.perlbench</td>
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</tr>
<tr>
<td>401.bzip2</td>
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<tr>
<td>403.gcc</td>
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<td>429.mcf</td>
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<tr>
<td>445.gobmk</td>
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<td>456.hmmer</td>
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<td>458.sjeng</td>
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<td>462.libquantum</td>
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<td>464.h264ref</td>
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<td>473.astar</td>
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<td>483.xalancbmk</td>
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Software

<table>
<thead>
<tr>
<th>Operating System</th>
<th>SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernel 2.6.32.12-0.7-default</th>
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<tr>
<td>Compiler</td>
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<td>Auto Parallel</td>
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<td>File System</td>
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<td>System State</td>
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<tr>
<td>Base Pointers</td>
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<tr>
<td>Peak Pointers</td>
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<tr>
<td>Other Software</td>
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SPEClnt_rate2006 = 513
SPEClnt_rate_base2006 = 485
Bull SAS
NovaScale R480 F2 (Intel Xeon E7530, 1.87 GHz)

**SPEC CINT2006 Result**

**SPECint_rate2006 = 513**

**SPECint_rate_base2006 = 485**

CPU2006 license: 20
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### Results Table

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</tr>
</tbody>
</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
'mount -t hugetlbfs nodev /mnt/hugepages' was used to enable large pages
echo 43200 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so

### Platform Notes

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

### General Notes

The Dell PowerEdge R910 and
the Bull NovaScale R480 F2 models are electronically equivalent.
The results have been measured on a Dell PowerEdge R910 model.
Binaries were compiled on RHEL5.5
SPEC CINT2006 Result

Bull SAS
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**SPECint_rate2006 = 513**
**SPECint_rate_base2006 = 485**

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---

**Base Compiler Invocation**

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

---

**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 -opt-prefetch`
  - `-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT`
- C++ benchmarks:
  - `-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs`
  - `-L/smartheap -lsmartheap`
  - `-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT`

---

**Base Other Flags**

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

---

**Peak Compiler Invocation**

C benchmarks (except as noted below):
- `icc -m32`
- `400.perlbench: icc -m64`
- `401.bzip2: icc -m64`
- `456.hmmer: icc -m64`
- `458.sjeng: icc -m64`

Continued on next page
Peak Compiler Invocation (Continued)

C++ benchmarks:
\texttt{icpc -m32}

Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64
401.bzip2: -DSPEC\_CPU\_LP64
456.hmmer: -DSPEC\_CPU\_LP64
458.sjeng: -DSPEC\_CPU\_LP64
462.libquantum: -DSPEC\_CPU\_LINUX
483.xalancbmk: -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) -prof-use (pass 2)
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs\_link=BDT

401.bzip2: -xSSE4.2 (pass 2) -prof-gen (pass 1) -ipo (pass 2)
-03 (pass 2) -no-prec-div (pass 2) -prof-use (pass 2)
-opt-prefetch -auto-ilp32 -ansi-alias
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs\_link=BDT

403.gcc: basepeak = yes

429.mcf: -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 -auto-ilp32

445.gobmk: -xSSE4.2 (pass 2) -prof-gen (pass 1) -prof-use (pass 2)
-ansi-alias -auto-ilp32

456.hmmer: -xSSE4.2 -ipo -03 -no-prec-div -unroll2 -auto-ilp32
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs\_link=BDT

458.sjeng: -xSSE4.2 (pass 2) -prof-gen (pass 1) -ipo (pass 2)
-03 (pass 2) -no-prec-div (pass 2) -prof-use (pass 2)
-unroll14 -auto-ilp32
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs\_link=BDT

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2 (pass 2) -prof-gen (pass 1) -ipo (pass 2)
-03 (pass 2) -no-prec-div (pass 2) -prof-use (pass 2)
-unroll12 -ansi-alias

Continued on next page
Peak Optimization Flags (Continued)

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
-L/smartheap -lsmartheap

473.astar: basepeak = yes
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-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110524.00.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110524.00.xml

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

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