Bull SAS
NovaScale T840 F3 (Intel Xeon E5-2603, 1.80 GHz)

SPECint\textsubscript{rate\_2006} = 174
SPECint\textsubscript{rate\_base\_2006} = 167

<table>
<thead>
<tr>
<th>Software</th>
<th>Operating System:</th>
<th>SUSE Linux Enterprise Server 11 SP2 (x86_64) 3.0.13-0.9-default</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Compiler:</td>
<td>CIC++: Version 12.1.0.225 of Intel C++ Studio XE for Linux</td>
</tr>
<tr>
<td></td>
<td>Auto Parallel:</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>File System:</td>
<td>ext3</td>
</tr>
<tr>
<td></td>
<td>System State:</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td></td>
<td>Base Pointers:</td>
<td>32-bit</td>
</tr>
<tr>
<td></td>
<td>Peak Pointers:</td>
<td>32/64-bit</td>
</tr>
<tr>
<td></td>
<td>Other Software:</td>
<td>Microquill SmartHeap V9.01</td>
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</table>

<table>
<thead>
<tr>
<th>Hardware</th>
<th>CPU Name:</th>
<th>Intel Xeon E5-2603</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Characteristics:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPU(s) enabled:</td>
<td>8 cores, 2 chips, 4 cores/chip</td>
<td></td>
</tr>
<tr>
<td>CPU(s) orderable:</td>
<td>1.2 chip</td>
<td></td>
</tr>
<tr>
<td>Primary Cache:</td>
<td>32 KB I + 32 KB D on chip per core</td>
<td></td>
</tr>
<tr>
<td>Secondary Cache:</td>
<td>256 KB I+D on chip per core</td>
<td></td>
</tr>
<tr>
<td>L3 Cache:</td>
<td>10 MB I+D on chip per chip</td>
<td></td>
</tr>
<tr>
<td>Other Cache:</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Memory:</td>
<td>128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1066 MHz)</td>
<td></td>
</tr>
<tr>
<td>Disk Subsystem:</td>
<td>1 x 1 TB 7200 RPM SATA</td>
<td></td>
</tr>
<tr>
<td>Other Hardware:</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>
Bull SAS
NovaScale T840 F3 (Intel Xeon E5-2603, 1.80 GHz)

SPECint_rate2006 = 174
SPECint_rate_base2006 = 167

CPU2006 license: 20
Test date: Feb-2012
Hardware Availability: Mar-2012
Test sponsor: Bull SAS
Software Availability: Feb-2012
Tested by: Dell Inc.

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Base Seconds</th>
<th>Base Ratio</th>
<th>Base Seconds</th>
<th>Ratio</th>
<th>Base Seconds</th>
<th>Ratio</th>
<th>Peak Seconds</th>
<th>Ratio</th>
<th>Peak Seconds</th>
<th>Ratio</th>
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</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>8</td>
<td>651</td>
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<td>652</td>
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<td>531</td>
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<td>532</td>
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<td>532</td>
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<tr>
<td>401.bzip2</td>
<td>8</td>
<td>910</td>
<td>84.8</td>
<td>906</td>
<td>85.2</td>
<td>8</td>
<td>859</td>
<td>89.8</td>
<td>858</td>
<td>90.0</td>
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<td>403.gcc</td>
<td>8</td>
<td>460</td>
<td>140</td>
<td>460</td>
<td>140</td>
<td>8</td>
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<tr>
<td>429.mcf</td>
<td>8</td>
<td>251</td>
<td>290</td>
<td>250</td>
<td>292</td>
<td>8</td>
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<td>250</td>
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<tr>
<td>445.gobmk</td>
<td>8</td>
<td>790</td>
<td>106</td>
<td>790</td>
<td>106</td>
<td>8</td>
<td>776</td>
<td>108</td>
<td>775</td>
<td>108</td>
<td>775</td>
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<td>456.hmmer</td>
<td>8</td>
<td>362</td>
<td>206</td>
<td>359</td>
<td>208</td>
<td>8</td>
<td>331</td>
<td>225</td>
<td>332</td>
<td>225</td>
<td>333</td>
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<td>458.sjeng</td>
<td>8</td>
<td>648</td>
<td>114</td>
<td>648</td>
<td>114</td>
<td>8</td>
<td>810</td>
<td>120</td>
<td>809</td>
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<td>810</td>
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<td>462.libquantum</td>
<td>8</td>
<td>158</td>
<td>1050</td>
<td>157</td>
<td>1050</td>
<td>8</td>
<td>158</td>
<td>1050</td>
<td>157</td>
<td>1050</td>
<td>158</td>
</tr>
<tr>
<td>464.h264ref</td>
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<td>813</td>
<td>218</td>
<td>812</td>
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<td>8</td>
<td>790</td>
<td>224</td>
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<td>793</td>
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<tr>
<td>471.omnetpp</td>
<td>8</td>
<td>481</td>
<td>104</td>
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<td>104</td>
<td>8</td>
<td>456</td>
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<td>455</td>
<td>110</td>
<td>456</td>
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<tr>
<td>473.astar</td>
<td>8</td>
<td>582</td>
<td>96.6</td>
<td>579</td>
<td>97.0</td>
<td>8</td>
<td>582</td>
<td>96.6</td>
<td>579</td>
<td>97.0</td>
<td>580</td>
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<tr>
<td>483.xalancbmk</td>
<td>8</td>
<td>277</td>
<td>200</td>
<td>276</td>
<td>200</td>
<td>8</td>
<td>277</td>
<td>200</td>
<td>276</td>
<td>200</td>
<td>277</td>
</tr>
</tbody>
</table>

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

Submit Notes
The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes
Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes
System Profile set to Custom
CPU Power Management set to Maximum Performance
Memory Frequency set to Maximum Performance
C States/CIE set to Enabled
Sysinfo program /root/CPU2006-1.2/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on linux-Sandy Tue Feb 14 16:29:37 2012

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:
http://www.spec.org/cpu2006/docs/config.html#sysinfo

From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E5-2603 0 @ 1.80GHz
  2 "physical id"s (chips)
  8 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
Continued on next page
**SPEC CINT2006 Result**

**Bull SAS**

NovaScale T840 F3 (Intel Xeon E5-2603, 1.80 GHz)

<table>
<thead>
<tr>
<th>SPECint_rate2006</th>
<th>174</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_rate_base2006</td>
<td>167</td>
</tr>
</tbody>
</table>

**Platform Notes (Continued)**

following excerpts from /proc/cpuinfo might not be reliable. Use with caution.

```plaintext
cpu cores : 4  
siblings : 4  
physical 0: cores 0 1 2 3  
physical 1: cores 0 1 2 3  
cache size : 10240 KB
```

From /proc/meminfo

```plaintext
MemTotal:   132122692 kB  
HugePages_Total:       0  
Hugepagesize: 2048 kB
```

/usr/bin/lsb_release -d  
SUSE Linux Enterprise Server 11 (x86_64)

From /etc/*release* /etc/*version*

SuSE-release:

SUSE Linux Enterprise Server 11 (x86_64)
VERSION = 11
PATCHLEVEL = 2

uname -a:

```
Linux linux-Sandy 3.0.13-0.9-default #1 SMP Mon Jan 16 17:33:03 UTC 2012  
(54ddfaf) x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Feb 14 16:28 last=5

SPEC is set to: /root/CPU2006-1.2

Filesystem  Type  Size  Used Avail Use% Mounted on
/dev/sda2  ext3  197G  68G  120G  37% /

Additional information from dmidecode:

(End of data from sysinfo program)

**General Notes**

Environment variables set by runspec before the start of the run:

```
LD_LIBRARY_PATH = "/root/CPU2006-1.2/libs/32:/root/CPU2006-1.2/libs/64"
```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5

The Dell PowerEdge T620 and the Bull NovaScale T840 F3 models are electronically equivalent.

The results have been measured on a Dell PowerEdge T620 model

Filesystem page cache cleared with:

```
echo 1 > /proc/sys/vm/drop_caches
```

runcspec command invoked through numactl i.e.:

```
umactl --interleave=all runspec <etc>
```

---

Standard Performance Evaluation Corporation  
info@spec.org  
http://www.spec.org/
Bull SAS

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Base Compiler Invocation

C benchmarks:
icc -m32

C++ benchmarks:
icc -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 -opt-mem-layout-trans=3

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -L/smartheap -lsmartheap

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

C++ benchmarks:
icc -m32
SPEC CINT2006 Result

Bull SAS
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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)
            -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
            -auto-ilp32

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
            -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
            -opt-prefetch -auto-ilp32 -ansi-alias

403.gcc: basepeak = yes
429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
            -ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
            -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
            -unroll4 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
            -O3(pass 2) -no-prec-div(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/smartheap -lsmartheap

473.astar: basepeak = yes
Bull SAS
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Peak Optimization Flags (Continued)

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-ic12.1-official-linux64.20111122.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revA.20120328.xml

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

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