Bull SAS

BL265 (Intel Xeon L5609, 1.86 GHz)

SPECint_rate2006 = 152
SPECint_rate_base2006 = 142

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Bull SAS
CPU Name: Intel Xeon L5609
CPU Characteristics:
CPU MHz: 1866
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 256 KB I+D on chip per core
L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC, running at 1066 MHz)
Disk Subsystem: 2 x 50 GB SATA, SSD
Other Hardware: None

Operating System: SUSE Linux Enterprise Server 11 (x86_64) SP1, Kernel 2.6.32.12-0.7-default
Compiler: Intel C++ Compiler XE for applications running on IA-32
Version 12.0.1.116 Build 20101116
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 V9.01
Bull SAS

BL265 (Intel Xeon L5609, 1.86 GHz)

SPECint_rate2006 = 152
SPECint_rate_base2006 = 142

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Base</td>
<td></td>
<td>Peak</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400.perlbench</td>
<td>8</td>
<td>711</td>
<td>110</td>
<td>711</td>
<td>110</td>
<td>709</td>
<td>110</td>
<td>8</td>
<td>577</td>
<td>135</td>
<td>578</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>8</td>
<td>1007</td>
<td>76.7</td>
<td>1007</td>
<td>76.7</td>
<td>1008</td>
<td>76.6</td>
<td>8</td>
<td>885</td>
<td>87.2</td>
<td>874</td>
</tr>
<tr>
<td>403.gcc</td>
<td>8</td>
<td>559</td>
<td>115</td>
<td>556</td>
<td>116</td>
<td>558</td>
<td>115</td>
<td>8</td>
<td>562</td>
<td>114</td>
<td>565</td>
</tr>
<tr>
<td>429.mcf</td>
<td>8</td>
<td>375</td>
<td>194</td>
<td>370</td>
<td>197</td>
<td>372</td>
<td>196</td>
<td>8</td>
<td>347</td>
<td>210</td>
<td>347</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>8</td>
<td>773</td>
<td>109</td>
<td>773</td>
<td>109</td>
<td>774</td>
<td>108</td>
<td>8</td>
<td>749</td>
<td>112</td>
<td>751</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>8</td>
<td>413</td>
<td>181</td>
<td>409</td>
<td>183</td>
<td>411</td>
<td>182</td>
<td>8</td>
<td>343</td>
<td>218</td>
<td>343</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>8</td>
<td>852</td>
<td>114</td>
<td>852</td>
<td>114</td>
<td>851</td>
<td>114</td>
<td>8</td>
<td>784</td>
<td>124</td>
<td>784</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>8</td>
<td>245</td>
<td>676</td>
<td>246</td>
<td>675</td>
<td>245</td>
<td>677</td>
<td>8</td>
<td>245</td>
<td>676</td>
<td>246</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>8</td>
<td>949</td>
<td>187</td>
<td>948</td>
<td>187</td>
<td>948</td>
<td>187</td>
<td>8</td>
<td>933</td>
<td>190</td>
<td>935</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>8</td>
<td>491</td>
<td>102</td>
<td>491</td>
<td>102</td>
<td>492</td>
<td>102</td>
<td>8</td>
<td>449</td>
<td>111</td>
<td>450</td>
</tr>
<tr>
<td>473.astar</td>
<td>8</td>
<td>659</td>
<td>85.2</td>
<td>660</td>
<td>85.1</td>
<td>659</td>
<td>85.2</td>
<td>8</td>
<td>659</td>
<td>85.2</td>
<td>660</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>8</td>
<td>372</td>
<td>148</td>
<td>371</td>
<td>149</td>
<td>372</td>
<td>149</td>
<td>8</td>
<td>372</td>
<td>148</td>
<td>371</td>
</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
Hugepages was enabled with the following:
'nodev /mnt/hugepages hugetlbfs defaults 0 0' added to /etc/fstab
echo 3600 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so

Platform Notes

Power C-states enabled in BIOS
Demand Scrub disabled in BIOS

Base Compiler Invocation

C benchmarks:
icc -m32

C++ benchmarks:
icpc -m32
Bull SAS
BL265 (Intel Xeon L5609, 1.86 GHz)

SPECint_rate2006 = 152
SPECint_rate_base2006 = 142

CPU2006 license: 20
Test sponsor: Bull SAS
Test date: Jan-2011
Tested by: Bull SAS

Hardware Availability: Mar-2010
Software Availability: Nov-2010

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

C++ benchmarks:
- icpc -m32

Peak Portability Flags

- 400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
- 401.bzip2: -DSPEC_CPU_LP64

Continued on next page
**SPEC CINT2006 Result**

**Bull SAS**

BL265 (Intel Xeon L5609, 1.86 GHz)  

<table>
<thead>
<tr>
<th>SPECint_rate2006</th>
<th>152</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_rate_base2006</td>
<td>142</td>
</tr>
</tbody>
</table>

**CPU2006 license:** 20  
**Test date:** Jan-2011  
**Test sponsor:** Bull SAS  
**Tested by:** Bull SAS  
**Hardware Availability:** Mar-2010  
**Software Availability:** Nov-2010

**Peak Portability Flags (Continued)**

- 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)  
  -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)  
  -O3(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: -xSSE4.2 -ipo -O3 -no-prec-div  
  -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

- 429.mcf: -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 -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 -O3 -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)  
  -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
  -unroll4 -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)  
  -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/smarmheap -lsmarmheap

**Continued on next page**
**Bull SAS**

BL265 (Intel Xeon L5609, 1.86 GHz)

**SPECint_rate2006 = 152**

**SPECint_rate_base2006 = 142**

---

**Peak Optimization Flags (Continued)**

473.astar: basepeak = yes

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:

http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.xml