Fujitsu

PRIMERGY BX620 S6, Intel Xeon X5670, 2.93 GHz

<table>
<thead>
<tr>
<th>SPECint®2006</th>
<th>39.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_base2006</td>
<td>36.6</td>
</tr>
</tbody>
</table>

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

<table>
<thead>
<tr>
<th>Software</th>
<th>CPU Name</th>
<th>CPU Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intel Xeon X5670</td>
<td>Intel Turbo Boost Technology up to 3.33 GHz</td>
</tr>
<tr>
<td></td>
<td>2933</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FPU: Integrated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CPU(s) orderable: 1.2 chips</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Primary Cache: 32 KB I + 32 KB D on chip per core</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Secondary Cache: 256 KB I+D on chip per core</td>
<td></td>
</tr>
<tr>
<td></td>
<td>L3 Cache: 12 MB I+D on chip per chip</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other Cache: None</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Memory: 96 GB (12x8 GB PC3-10600R, 2 rank, CL9-9-9, ECC)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disk Subsystem: 1 x SAS, 300 GB, 10000 RPM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other Hardware: None</td>
<td></td>
</tr>
</tbody>
</table>

Operating System: SUSE Linux Enterprise Server 11 (x86_64) with SP1, Kernel 2.6.32.12-0.7-default
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: Yes
File System: ext3
System State: Multi-User Run Level 3
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V8.1
**SPEC CINT2006 Result**

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**SPECint2006 = 39.5**

**SPECint_base2006 = 36.6**

- **CPU2006 license:** 19
- **Test date:** Aug-2010
- **Hardware Availability:** Aug-2010
- **Test sponsor:** Fujitsu
- **Tested by:** Fujitsu
- **Software Availability:** Jan-2010

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### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Base</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Peak</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>379</td>
<td>25.8</td>
<td>378</td>
<td>25.8</td>
<td>378</td>
<td>25.8</td>
<td>326</td>
<td>30.0</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>494</td>
<td>19.5</td>
<td>494</td>
<td>19.5</td>
<td>494</td>
<td>19.5</td>
<td>494</td>
<td>19.5</td>
</tr>
<tr>
<td>403.gcc</td>
<td>334</td>
<td>24.1</td>
<td>335</td>
<td>24.0</td>
<td>335</td>
<td>24.0</td>
<td>296</td>
<td>27.2</td>
</tr>
<tr>
<td>429.mcf</td>
<td>214</td>
<td>42.7</td>
<td>213</td>
<td>42.7</td>
<td>213</td>
<td>42.7</td>
<td>186</td>
<td>48.9</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>431</td>
<td>42.3</td>
<td>432</td>
<td>42.3</td>
<td>432</td>
<td>42.3</td>
<td>398</td>
<td>26.3</td>
</tr>
<tr>
<td>459.hmmer</td>
<td>200</td>
<td>46.7</td>
<td>198</td>
<td>47.1</td>
<td>200</td>
<td>46.6</td>
<td>192</td>
<td>48.5</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>470</td>
<td>25.7</td>
<td>469</td>
<td>25.8</td>
<td>470</td>
<td>25.7</td>
<td>453</td>
<td>26.7</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>33.4</td>
<td>620</td>
<td>33.8</td>
<td>613</td>
<td>33.2</td>
<td>624</td>
<td>33.4</td>
<td>620</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>597</td>
<td>37.1</td>
<td>596</td>
<td>37.1</td>
<td>597</td>
<td>37.1</td>
<td>544</td>
<td>40.7</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>286</td>
<td>21.8</td>
<td>287</td>
<td>21.8</td>
<td>286</td>
<td>21.8</td>
<td>228</td>
<td>27.5</td>
</tr>
<tr>
<td>473.astar</td>
<td>345</td>
<td>20.3</td>
<td>344</td>
<td>20.4</td>
<td>344</td>
<td>20.4</td>
<td>332</td>
<td>21.1</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>188</td>
<td>36.8</td>
<td>186</td>
<td>37.0</td>
<td>185</td>
<td>37.3</td>
<td>188</td>
<td>36.8</td>
</tr>
</tbody>
</table>

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

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**Operating System Notes**

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

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**Platform Notes**

BIOS configuration:
Data Reuse Optimization = Disable
Intel HT Technology = Disable
Performance/Power Setting = Traditional

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**General Notes**

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
For information about Fujitsu please visit: http://www.fujitsu.com
Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

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**Base Compiler Invocation**

C benchmarks:
  - icc -m64

C++ benchmarks:
  - icpc -m64
**SPEC CINT2006 Result**

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**SPECint_base2006 =** 36.6

---

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**Test date:** Aug-2010  
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**Base Portability Flags**

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64  
401.bzip2: -DSPEC_CPU_LP64  
403.gcc: -DSPEC_CPU_LP64  
429.mcf: -DSPEC_CPU_LP64  
445.gobmk: -DSPEC_CPU_LP64  
456.hmmer: -DSPEC_CPU_LP64  
458.sjeng: -DSPEC_CPU_LP64  
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX  
464.h264ref: -DSPEC_CPU_LP64  
471.omnetpp: -DSPEC_CPU_LP64  
473.astar: -DSPEC_CPU_LP64  
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

---

**Base Optimization Flags**

C benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

C++ benchmarks:  

---

**Base Other Flags**

C benchmarks:  
403.gcc: -Dalloca=_alloca

---

**Peak Compiler Invocation**

C benchmarks (except as noted below):  
`icc -m64`

400.perlbench: `icc -m32`

429.mcf: `icc -m32`

445.gobmk: `icc -m32`

464.h264ref: `icc -m32`

C++ benchmarks (except as noted below):  
`icpc -m64`

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Peak Compiler Invocation (Continued)

471.omnetpp: icpc -m32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -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) -static(pass 2)
-ipo(pass 2) -ansi-alias -opt-prefetch

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-o3(pass 2) -no-prec-div -static(pass 2) -prof-use(pass 2)
-auto-ilp32 -opt-prefetch -ansi-alias

403.gcc: -xSSE4.2 -ipo -o3 -no-prec-div -static -opt-prefetch
-opt-malloc-options=3 -auto-ilp32

429.mcf: -xSSE4.2 -ipo -o3 -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 -o3 -no-prec-div -static -unroll2
-ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-o3(pass 2) -no-prec-div(pass 2) -static(pass 2)
-ipo(pass 2) -unroll2

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) -static(pass 2)
-ipo(pass 2) -unroll2 -ansi-alias

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**SPEC CINT2006 Result**

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**Peak Optimization Flags (Continued)**

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/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap
- 473.astar: -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=routine -Wl,-z,muldefs -L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64
- 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/Intel-ic11.1-linux64-revE.20100708.html

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


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For questions about this result, please contact the tester.  
For other inquiries, please contact webmaster@spec.org.

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