Fujitsu

PRIMERGY TX100 S3p, Intel Core i3-3220, 3.30 GHz

**SPECint\_rate2006 = 96.6**

**SPECint\_rate\_base2006 = 91.9**

<table>
<thead>
<tr>
<th>Software</th>
<th>Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System: Red Hat Enterprise Linux Server release 6.2 (Santiago) 2.6.32-220.el6.x86_64</td>
<td>CPU Name: Intel Core i3-3220</td>
</tr>
<tr>
<td>Compiler: C/C++: Version 12.1.0.293 of Intel C++ Studio XE for Linux</td>
<td>CPU Characteristics:</td>
</tr>
<tr>
<td>Auto Parallel: No</td>
<td>CPU MHz: 3300</td>
</tr>
<tr>
<td>File System: ext4</td>
<td>FPU: Integrated</td>
</tr>
<tr>
<td>System State: Run level 3 (multi-user)</td>
<td>Primary Cache: 32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>Base Pointers: 32-bit</td>
<td>Secondary Cache: 256 KB I+D on chip per core</td>
</tr>
<tr>
<td>Peak Pointers: 32/64-bit</td>
<td>L3 Cache: 3 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other Software: Microquill SmartHeap V10.0</td>
<td>Other Cache: None</td>
</tr>
</tbody>
</table>

Test date: May-2012

Hardware Availability: Sep-2012

Software Availability: Feb-2012

Fujitsu

**CPU2006 license:** 19

**Test sponsor:** Fujitsu

**Tested by:** Fujitsu

<table>
<thead>
<tr>
<th>SPECint rate</th>
<th>SPECint rate base</th>
</tr>
</thead>
<tbody>
<tr>
<td>96.6</td>
<td>91.9</td>
</tr>
</tbody>
</table>

400.perlbench

401.bzip2

403.gcc

429.mcf

445.gobmk

456.hmmer

458.sjeng

462.libquantum

464.h264ref

471.omnetpp

473.astar

483.xalancbmk

**SPECint\_rate\_base2006 = 91.9**

**SPECint\_rate2006 = 96.6**
SPEC CINT2006 Result

Fujitsu

PRIMERGY TX100 S3p, Intel Core i3-3220, 3.30 GHz

SPECint_rate2006 = 96.6
SPECint_rate_base2006 = 91.9

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

Test date: May-2012
Hardware Availability: Sep-2012
Software Availability: Feb-2012

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>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>4</td>
<td>585</td>
<td>66.8</td>
<td>593</td>
<td>65.9</td>
<td>591</td>
<td>66.1</td>
<td>4</td>
<td>494</td>
<td>79.1</td>
<td>496</td>
<td>78.7</td>
<td>498</td>
<td>78.5</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>4</td>
<td>827</td>
<td>46.7</td>
<td>816</td>
<td>47.3</td>
<td>820</td>
<td>47.1</td>
<td>4</td>
<td>795</td>
<td>48.6</td>
<td>798</td>
<td>48.4</td>
<td>790</td>
<td>48.9</td>
</tr>
<tr>
<td>403.gcc</td>
<td>4</td>
<td>423</td>
<td>76.1</td>
<td>417</td>
<td>77.2</td>
<td>420</td>
<td>76.7</td>
<td>4</td>
<td>423</td>
<td>76.1</td>
<td>417</td>
<td>77.2</td>
<td>420</td>
<td>76.7</td>
</tr>
<tr>
<td>429.mcf</td>
<td>4</td>
<td>260</td>
<td>140</td>
<td>263</td>
<td>139</td>
<td>258</td>
<td>141</td>
<td>4</td>
<td>260</td>
<td>140</td>
<td>263</td>
<td>139</td>
<td>258</td>
<td>141</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>4</td>
<td>638</td>
<td>65.7</td>
<td>639</td>
<td>65.7</td>
<td>642</td>
<td>65.4</td>
<td>4</td>
<td>613</td>
<td>68.5</td>
<td>625</td>
<td>67.2</td>
<td>612</td>
<td>68.5</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>4</td>
<td>320</td>
<td>117</td>
<td>320</td>
<td>117</td>
<td>322</td>
<td>116</td>
<td>4</td>
<td>257</td>
<td>145</td>
<td>258</td>
<td>145</td>
<td>256</td>
<td>146</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>4</td>
<td>726</td>
<td>66.7</td>
<td>725</td>
<td>66.8</td>
<td>723</td>
<td>67.0</td>
<td>4</td>
<td>692</td>
<td>69.9</td>
<td>692</td>
<td>69.9</td>
<td>691</td>
<td>70.1</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>4</td>
<td>152</td>
<td>544</td>
<td>153</td>
<td>543</td>
<td>153</td>
<td>542</td>
<td>4</td>
<td>151</td>
<td>551</td>
<td>151</td>
<td>549</td>
<td>151</td>
<td>550</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>4</td>
<td>771</td>
<td>115</td>
<td>758</td>
<td>117</td>
<td>754</td>
<td>117</td>
<td>4</td>
<td>744</td>
<td>119</td>
<td>744</td>
<td>119</td>
<td>742</td>
<td>119</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>4</td>
<td>433</td>
<td>57.7</td>
<td>436</td>
<td>57.4</td>
<td>429</td>
<td>58.2</td>
<td>4</td>
<td>411</td>
<td>60.9</td>
<td>409</td>
<td>61.2</td>
<td>412</td>
<td>60.7</td>
</tr>
<tr>
<td>473.astar</td>
<td>4</td>
<td>513</td>
<td>54.7</td>
<td>511</td>
<td>54.9</td>
<td>511</td>
<td>55.0</td>
<td>4</td>
<td>513</td>
<td>54.7</td>
<td>511</td>
<td>54.9</td>
<td>511</td>
<td>55.0</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>4</td>
<td>261</td>
<td>106</td>
<td>262</td>
<td>105</td>
<td>262</td>
<td>105</td>
<td>4</td>
<td>261</td>
<td>106</td>
<td>262</td>
<td>105</td>
<td>262</td>
<td>105</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"
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64"

Binaries compiled on a system with 2x E5-2650 CPU + 96 GB memory using RHEL6.2
For information about Fujitsu please visit: http://www.fujitsu.com

Base Compiler Invocation

C benchmarks:
   icc -m32

Continued on next page
Fujitsu

PRIMERGY TX100 S3p, Intel Core i3-3220, 3.30 GHz

SPECint_rate2006 = 96.6
SPECint_rate_base2006 = 91.9

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

Test date: May-2012
Hardware Availability: Sep-2012
Software Availability: Feb-2012

Base Compiler Invocation (Continued)

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 -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/opt/SmartHeap/lib -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:
icpc -m32
Fujitsu

PRIMERGY TX100 S3p, Intel Core i3-3220, 3.30 GHz

SPECint_rate2006 = 96.6
SPECint_rate_base2006 = 91.9

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

Test date: May-2012
Hardware Availability: Sep-2012
Software Availability: Feb-2012

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)
-auto-ilp32

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

403.gcc: basepeak = yes
429.mcf: basepeak = yes
445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xSSE4.2 -ipo -03 -no-prec-div -unroll2 -auto-ilp32

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)
-unroll4 -auto-ilp32

462.libquantum: -xAVX -ipo -03 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3

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)
-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
-L/opt/SmartHeap/lib -lsmartheap

473.astar: basepeak = yes

Continued on next page
Fujitsu

PRIMERGY TX100 S3p, Intel Core i3-3220, 3.30 GHz

SPECint_rate2006 = 96.6
SPECint_rate_base2006 = 91.9

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

Test date: May-2012
Hardware Availability: Sep-2012
Software Availability: Feb-2012

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
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.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/Fujitsu-Platform.20120320.xml