Fujitsu PRIMERGY RX300 S6, Intel Xeon E5606, 2.13 GHz

<table>
<thead>
<tr>
<th>SPECint_rate2006</th>
<th>84.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_rate_base2006</td>
<td>79.4</td>
</tr>
</tbody>
</table>

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

Hardware

<table>
<thead>
<tr>
<th>CPU Name:</th>
<th>Intel Xeon E5606</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Characteristics:</td>
<td></td>
</tr>
<tr>
<td>CPU MHZ:</td>
<td>2133</td>
</tr>
<tr>
<td>FPU:</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled:</td>
<td>4 cores, 1 chip, 4 cores/chip</td>
</tr>
<tr>
<td>CPU(s) orderable:</td>
<td>1.2 chips</td>
</tr>
<tr>
<td>Primary Cache:</td>
<td>32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>Secondary Cache:</td>
<td>256 KB I+D on chip per core</td>
</tr>
<tr>
<td>L3 Cache:</td>
<td>8 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other Cache:</td>
<td>None</td>
</tr>
<tr>
<td>Memory:</td>
<td>24 GB (6 x 4 GB 2Rx4 PC3-10600R-9, ECC, running at 1067 MHz and CL7)</td>
</tr>
<tr>
<td>Disk Subsystem:</td>
<td>1 x SAS, 300 GB, 10000 RPM</td>
</tr>
<tr>
<td>Other Hardware:</td>
<td>--</td>
</tr>
</tbody>
</table>

Software

<table>
<thead>
<tr>
<th>Operating System:</th>
<th>SUSE Linux Enterprise Server 11 (x86_64) with SP1, Kernel 2.6.32.12-0.7-default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compiler:</td>
<td>Intel C++ Compiler XE for applications running on IA-32</td>
</tr>
<tr>
<td>Auto Parallel:</td>
<td>No</td>
</tr>
<tr>
<td>File System:</td>
<td>ext3</td>
</tr>
<tr>
<td>System State:</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers:</td>
<td>32-bit</td>
</tr>
<tr>
<td>Peak Pointers:</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Other Software:</td>
<td>Microquill SmartHeap V9.01</td>
</tr>
</tbody>
</table>

Test date: Dec-2010
Hardware Availability: Feb-2011
Software Availability: Nov-2010
Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Peak Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<tbody>
<tr>
<td>400.perlbench</td>
<td>4</td>
<td>623</td>
<td>62.7</td>
<td>622</td>
<td>62.8</td>
<td>621</td>
<td>62.9</td>
<td>4</td>
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<td>75.5</td>
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<td>75.4</td>
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<td>75.5</td>
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<td>401.bzip2</td>
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<td>925</td>
<td>41.7</td>
<td>927</td>
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<td>926</td>
<td>41.7</td>
<td>4</td>
<td>841</td>
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<td>45.8</td>
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<td>403.gcc</td>
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<td>63.2</td>
<td>514</td>
<td>62.7</td>
<td>514</td>
<td>62.6</td>
<td>4</td>
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<td>62.7</td>
<td>513</td>
<td>62.7</td>
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<td>63.1</td>
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<tr>
<td>429.mcf</td>
<td>4</td>
<td>349</td>
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<td>349</td>
<td>105</td>
<td>349</td>
<td>104</td>
<td>4</td>
<td>318</td>
<td>115</td>
<td>314</td>
<td>116</td>
<td>315</td>
<td>116</td>
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<td>445.gobmk</td>
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<td>681</td>
<td>61.6</td>
<td>679</td>
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<td>680</td>
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<td>4</td>
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<td>63.7</td>
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<td>63.6</td>
<td>659</td>
<td>63.7</td>
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<td>456.hmmer</td>
<td>4</td>
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<td>361</td>
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<td>358</td>
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<td>123</td>
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<tr>
<td>458.sjeng</td>
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<td>64.7</td>
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<td>705</td>
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<tr>
<td>462.libquantum</td>
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<td>382</td>
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<td>383</td>
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<td>382</td>
<td>4</td>
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<td>382</td>
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<tr>
<td>464.h264ref</td>
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<td>835</td>
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<td>106</td>
<td>835</td>
<td>106</td>
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<td>821</td>
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<td>824</td>
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<td>471.omnetpp</td>
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<td>448</td>
<td>55.8</td>
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<td>55.8</td>
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<td>60.8</td>
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<tr>
<td>473.astar</td>
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<td>47.1</td>
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<td>47.1</td>
<td>596</td>
<td>47.1</td>
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<td>596</td>
<td>47.1</td>
<td>596</td>
<td>47.1</td>
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<tr>
<td>483.xalancbmk</td>
<td>4</td>
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<td>83.2</td>
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<td>83.0</td>
<td>332</td>
<td>83.1</td>
<td>4</td>
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<td>83.2</td>
<td>333</td>
<td>83.0</td>
<td>332</td>
<td>83.1</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 were not configured on the system

Platform Notes
BIOS configuration:
Data Reuse Optimization = Disable

General Notes
This result was measured on the PRIMERGY RX300 S6. The PRIMERGY RX300 S6
and the PRIMERGY TX300 S6 are electronically equivalent.

For information about Fujitsu please visit:  http://www.fujitsu.com
Binaries were compiled on SLES 10 SP1 with Binutils 2.18.50.0.7.20080502
### Fujitsu

**PRIMERGY RX300 S6, Intel Xeon E5606, 2.13 GHz**

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**CPU2006 license:** 19  
**Test sponsor:** Fujitsu  
**Tested by:** Fujitsu  
**Test date:** Dec-2010  
**Hardware Availability:** Feb-2011  
**Software Availability:** Nov-2010

---

### Base Compiler Invocation

- **C benchmarks:**
  
  ```
  icc -m32 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
  ```

- **C++ benchmarks:**
  
  ```
  icpc -m32 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
  ```

---

### 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
  ```

- **C++ benchmarks:**
  
  ```
  -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -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 -m64
  ```

  ```
  403.gcc: icc -m32
  -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
  ```

  ```
  429.mcf: icc -m32
  ```

  ```
  445.gobmk: icc -m32
  ```

  ```
  456.hmmer: icc -m64
  -B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT
  ```

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SPEC CINT2006 Result

Fujitsu
PRIMERGY RX300 S6, Intel Xeon E5606, 2.13 GHz

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SPECint_rate2006 = 84.5
SPECint_rate_base2006 = 79.4

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

Dec-2010
Feb-2011
Nov-2010

Peak Compiler Invocation (Continued)

462.libquantum: icc -m32 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
464.h264ref: icc -m32

C++ benchmarks (except as noted below):
icpc -m32 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
471.omnetpp: 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) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
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: -xSSE4.2 -ipo -O3 -no-prec-div
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
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

Continued on next page
Fujitsu

PRIMERGY RX300 S6, Intel Xeon E5606, 2.13 GHz

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SPECint_rate_base2006 = 79.4

CPU2006 license: 19
Test sponsor: Fujitsu
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Test date: Dec-2010
Hardware Availability: Feb-2011
Software Availability: Nov-2010

Peak Optimization Flags (Continued)

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
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.20110303.00.xml

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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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