Fujitsu PRIMERGY RX350 S7, Intel Xeon E5-2603, 1.80 GHz

SPECint®_rate2006 = 89.5
SPECint_rate_base2006 = 85.9

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

Test date: Feb-2012
Hardware Availability: Mar-2012

Software Availability: Dec-2011

CPU Name: Intel Xeon E5-2603
CPU Characteristics: Integrated
CPU MHz: 1800
FPU: Integrated
CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
CPU(s) orderable: 1.2 chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 256 KB I+D on chip per core
L3 Cache: 10 MB I+D on chip per chip
Other Cache: None
Memory: 64 GB (8 x 8 GB 2Rx4 PC3L-12800R-11, ECC, running at 1067 MHz and CL7)
Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM
Other Hardware: None

Software
Operating System: Red Hat Enterprise Linux Server release 6.2 (Santiago)
Compiler: C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux
Auto Parallel: No
File System: ext4
System State: Run level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V9.01
SPEC CINT2006 Result

Fujitsu

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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>
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<tbody>
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</tr>
<tr>
<td>400.perlbench</td>
<td>4</td>
<td>645.0s</td>
<td>60.5%</td>
<td>645.0s</td>
<td>60.6%</td>
<td>646.0s</td>
<td>60.5%</td>
<td>528.0s</td>
<td>74.1%</td>
<td>527.0s</td>
<td>74.2%</td>
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<tr>
<td>401.bzip2</td>
<td>4</td>
<td>860.0s</td>
<td>44.9%</td>
<td>861.0s</td>
<td>44.8%</td>
<td>859.0s</td>
<td>44.9%</td>
<td>814.0s</td>
<td>47.4%</td>
<td>814.0s</td>
<td>47.4%</td>
</tr>
<tr>
<td>403.gcc</td>
<td>4</td>
<td>450.0s</td>
<td>71.6%</td>
<td>450.0s</td>
<td>71.5%</td>
<td>450.0s</td>
<td>71.5%</td>
<td>450.0s</td>
<td>71.6%</td>
<td>450.0s</td>
<td>71.5%</td>
</tr>
<tr>
<td>429.mcf</td>
<td>4</td>
<td>246.0s</td>
<td>149.0s</td>
<td>245.0s</td>
<td>149.0s</td>
<td>246.0s</td>
<td>149.0s</td>
<td>246.0s</td>
<td>149.0s</td>
<td>246.0s</td>
<td>149.0s</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>4</td>
<td>788.0s</td>
<td>53.3%</td>
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<td>53.3%</td>
<td>788.0s</td>
<td>53.3%</td>
<td>772.0s</td>
<td>54.3%</td>
<td>773.0s</td>
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<tr>
<td>456.hmmer</td>
<td>4</td>
<td>358.0s</td>
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<td>359.0s</td>
<td>103.0s</td>
<td>362.0s</td>
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<tr>
<td>458.sjeng</td>
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<td>58.2%</td>
<td>832.0s</td>
<td>58.1%</td>
<td>833.0s</td>
<td>58.1%</td>
<td>799.0s</td>
<td>60.6%</td>
<td>801.0s</td>
<td>60.4%</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>4</td>
<td>157.0s</td>
<td>526.0s</td>
<td>157.0s</td>
<td>526.0s</td>
<td>158.0s</td>
<td>524.0s</td>
<td>157.0s</td>
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<tr>
<td>464.h264ref</td>
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<td>111.0s</td>
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<td>784.0s</td>
<td>113.0s</td>
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<td>114.0s</td>
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<tr>
<td>471.omnetpp</td>
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<td>423.0s</td>
<td>59.1%</td>
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<td>58.9%</td>
<td>424.0s</td>
<td>58.9%</td>
<td>393.0s</td>
<td>63.6%</td>
<td>394.0s</td>
<td>63.5%</td>
</tr>
<tr>
<td>473.astar</td>
<td>4</td>
<td>568.0s</td>
<td>49.4%</td>
<td>566.0s</td>
<td>49.7%</td>
<td>566.0s</td>
<td>49.6%</td>
<td>568.0s</td>
<td>49.4%</td>
<td>566.0s</td>
<td>49.7%</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>4</td>
<td>271.0s</td>
<td>102.0s</td>
<td>271.0s</td>
<td>102.0s</td>
<td>274.0s</td>
<td>101.0s</td>
<td>271.0s</td>
<td>102.0s</td>
<td>271.0s</td>
<td>102.0s</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"

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 1x Core i7-860 CPU + 8GB memory using RHEL5.5
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>

This result was measured on the PRIMERGY RX350 S7. The PRIMERGY RX350 S7 and the PRIMERGY TX300 S7 are electronically equivalent.
For information about Fujitsu please visit: http://www.fujitsu.com
**SPEC CINT2006 Result**

**Fujitsu**

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**Base Compiler Invocation**

- **C benchmarks**: `icc -m32`
- **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/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**:
  - `icpc -m32`
Fujitsu

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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

Continued on next page
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/Fujitsu-Platform.20120320.html
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/Fujitsu-Platform.20120320.xml
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml