**Fujitsu**

PRIMERGY RX2560 M1, Intel Xeon E5-2643 v3, 3.4 GHz

<table>
<thead>
<tr>
<th>SPECint®2006</th>
<th>66.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_base2006</td>
<td>63.5</td>
</tr>
</tbody>
</table>

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

### CPU Characteristics

<table>
<thead>
<tr>
<th>Name</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name</td>
<td>Intel Xeon E5-2643 v3</td>
</tr>
<tr>
<td>CPU Characteristics</td>
<td>Intel Turbo Boost Technology up to 3.70 GHz</td>
</tr>
<tr>
<td>CPU MHz</td>
<td>3400</td>
</tr>
<tr>
<td>FPU</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled</td>
<td>12 cores, 2 chips, 6 cores/chip, 2 threads/core</td>
</tr>
<tr>
<td>CPU(s) orderable</td>
<td>1.2 chip</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>20 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other Cache</td>
<td>None</td>
</tr>
<tr>
<td>Memory</td>
<td>256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)</td>
</tr>
<tr>
<td>Disk Subsystem</td>
<td>1 x SATA, 500 GB, 7200 RPM</td>
</tr>
<tr>
<td>Other Hardware</td>
<td>None</td>
</tr>
</tbody>
</table>

### Software

<table>
<thead>
<tr>
<th>Name</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>Red Hat Enterprise Linux Server release 6.6 (Santiago)</td>
</tr>
<tr>
<td>Compiler</td>
<td>CIC++: Version 14.0.0.080 of Intel C++ Studio XE for Linux</td>
</tr>
<tr>
<td>Auto Parallel</td>
<td>Yes</td>
</tr>
<tr>
<td>File System</td>
<td>ext4</td>
</tr>
<tr>
<td>System State</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Peak Pointers</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Other Software</td>
<td>Microquill SmartHeap V10.0</td>
</tr>
</tbody>
</table>

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**SPECint2006 =** 66.9

**SPECint_base2006 =** 63.5

---

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

---

### Results Table

<table>
<thead>
<tr>
<th>Benchmark</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>400.perlbench</td>
<td>233</td>
<td>41.9</td>
<td>233</td>
<td>41.8</td>
<td>234</td>
<td>41.8</td>
<td>198</td>
<td>49.3</td>
<td>197</td>
<td>49.5</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>364</td>
<td>26.5</td>
<td>364</td>
<td>26.5</td>
<td>364</td>
<td>26.5</td>
<td>360</td>
<td>26.8</td>
<td>360</td>
<td>26.8</td>
</tr>
<tr>
<td>403.mcf</td>
<td>216</td>
<td>37.3</td>
<td>215</td>
<td>37.4</td>
<td>216</td>
<td>37.3</td>
<td>212</td>
<td>38.0</td>
<td>212</td>
<td>37.9</td>
</tr>
<tr>
<td>429.gcc</td>
<td>131</td>
<td>69.7</td>
<td>132</td>
<td>69.1</td>
<td>132</td>
<td>69.2</td>
<td>130</td>
<td>69.9</td>
<td>131</td>
<td>69.4</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>351</td>
<td>29.9</td>
<td>354</td>
<td>29.6</td>
<td>352</td>
<td>29.8</td>
<td>341</td>
<td>30.8</td>
<td>341</td>
<td>30.8</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>126</td>
<td>73.9</td>
<td>126</td>
<td>74.0</td>
<td>128</td>
<td>72.9</td>
<td>126</td>
<td>73.9</td>
<td>126</td>
<td>74.0</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>340</td>
<td>35.6</td>
<td>340</td>
<td>35.6</td>
<td>341</td>
<td>35.5</td>
<td>335</td>
<td>36.1</td>
<td>335</td>
<td>36.1</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>4.64</td>
<td>4470</td>
<td>4.84</td>
<td>4280</td>
<td>4.24</td>
<td>4890</td>
<td>4.64</td>
<td>4470</td>
<td>4.84</td>
<td>4280</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>389</td>
<td>57.0</td>
<td>389</td>
<td>56.9</td>
<td>390</td>
<td>56.8</td>
<td>389</td>
<td>57.0</td>
<td>389</td>
<td>56.9</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>202</td>
<td>31.0</td>
<td>202</td>
<td>31.0</td>
<td>203</td>
<td>30.9</td>
<td>142</td>
<td>44.0</td>
<td>141</td>
<td>44.3</td>
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<tr>
<td>473.astar</td>
<td>197</td>
<td>35.6</td>
<td>201</td>
<td>34.9</td>
<td>200</td>
<td>35.0</td>
<td>198</td>
<td>35.5</td>
<td>196</td>
<td>35.8</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>99.5</td>
<td>69.4</td>
<td>101</td>
<td>68.6</td>
<td>100</td>
<td>68.9</td>
<td>98.3</td>
<td>70.2</td>
<td>98.1</td>
<td>70.3</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.

---

### Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

---

### Platform Notes

BIOS configuration:
- Energy Performance = Performance
- Utilization Profile = Unbalanced
- QPI snoop mode: Early Snoop
- COD Enable = Disabled, Early Snoop = Enabled
- CPU C1E Support = Disabled

---

### General Notes

Environment variables set by runspec before the start of the run:
- KMP_AFFINITY = "granularity=fine,compact,1,0"
- LD_LIBRARY_PATH = "/home/SPECcpu2006/libs/32:/home/SPECcpu2006/libs/64:/home/SPECcpu2006/sh"
- OMP_NUM_THREADS = "12"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4
- Transparent Huge Pages enabled with:
  - echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled

Continued on next page
Fujitsu

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Test date: Apr-2015
Tested by: Fujitsu
Software Availability: Nov-2013
Hardware Availability: Apr-2015

General Notes (Continued)

runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

This result was measured on the PRIMERGY RX2560 M1. The PRIMERGY RX2560 M1
and the PRIMERGY TX2560 M1 are electronically equivalent.
For information about Fujitsu please visit: http://www.fujitsu.com

Base Compiler Invocation

C benchmarks:
  icc -m64

C++ benchmarks:
  icpc -m64

Base Portability Flags

C benchmarks:
  -DSPEC_CPU_LP64
  -DSPEC_CPU_LINUX_X64

C++ benchmarks:
  -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
  -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
  -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
  -Wl,-z,muldefs -L/sh -Lsmartheap64

Base Other Flags

Continued on next page
SPEC CINT2006 Result

Fujitsu PRIMERGY RX2560 M1, Intel Xeon E5-2643 v3, 3.4 GHz

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SPECint_base2006 = 63.5

CINT2006 license: 19
Test date: Apr-2015
Test sponsor: Fujitsu
Hardware Availability: Apr-2015
Tested by: Fujitsu
Software Availability: Nov-2013

Base Other Flags (Continued)

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

```
icc -m64
```

400.perlbench: icc -m32

445.gobmk: icc -m32

C++ benchmarks (except as noted below):

```
icpc -m32
```

473.astar: icpc -m64

Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -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
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

```
C benchmarks:

400.perlbench: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch -ansi-alias
401.bzip2: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32 -opt-prefetch -ansi-alias
403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-cALLOC -opt-malloc-options=3 -auto-ilp32
```

Continued on next page
Fujitsu

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Peak Optimization Flags (Continued)

429.mcf: -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias

456.hmmer: basepeak = yes

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-ra-region-strategy=block -ansi-alias -Wl,-z,muldefs -L/sh -lsmartheap

473.astar: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -Wl,-z,muldefs -L/sh -lsmartheap64

483.xalancbmk: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias -Wl,-z,muldefs -L/sh -lsmartheap

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revB.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.xml
### Fujitsu

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For other inquiries, please contact webmaster@spec.org.

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