**Fujitsu Limited**

**Fujitsu SPARC Enterprise T5120 (gccfss)**

<table>
<thead>
<tr>
<th>SPECint®_rate2006 =</th>
<th>83.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_rate_base2006 =</td>
<td>76.2</td>
</tr>
</tbody>
</table>

**CPU2006 license:** 19  
**Test sponsor:** Fujitsu Limited  
**Tested by:** Sun Microsystems  
**Test date:** Jan-2008  
**Hardware Availability:** Oct-2007  
**Software Availability:** Jan-2008

### Hardware

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
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<tbody>
<tr>
<td>CPU Name</td>
<td>UltraSPARC T2</td>
</tr>
<tr>
<td>CPU Characteristics</td>
<td></td>
</tr>
<tr>
<td>CPU MHZ</td>
<td>1417</td>
</tr>
<tr>
<td>FPU</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled</td>
<td>8 cores, 1 chip, 8 cores/chip, 8 threads/core</td>
</tr>
<tr>
<td>CPU(s) orderable</td>
<td>1 chip</td>
</tr>
<tr>
<td>Primary Cache</td>
<td>16 KB I + 8 KB D on chip per core</td>
</tr>
<tr>
<td>Secondary Cache</td>
<td>4 MB I+D on chip per chip</td>
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<tr>
<td>L3 Cache</td>
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<tr>
<td>Other Cache</td>
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<tr>
<td>Memory</td>
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</tr>
<tr>
<td>Disk Subsystem</td>
<td>384 GB Solaris Volume Manager</td>
</tr>
<tr>
<td></td>
<td>RAID 0, interlace 384KB, on 4x SUN146G 10K RPM SAS drives</td>
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<tr>
<td></td>
<td>ufs fragment size 8192 bytes</td>
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<td>Other Hardware</td>
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### Software

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
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<tbody>
<tr>
<td>Operating System</td>
<td>Solaris 10 8/07 (build s10s_u4wos_12b)</td>
</tr>
<tr>
<td>Compiler</td>
<td>gccfss V4.2.0 (build 20071213)</td>
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<tr>
<td>Auto Parallel</td>
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<td>File System</td>
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<tr>
<td>System State</td>
<td>Default</td>
</tr>
<tr>
<td>Base Pointers</td>
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<tr>
<td>Peak Pointers</td>
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<td>Other Software</td>
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**Copies**

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<td>66.6</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>63</td>
<td>57.3</td>
<td>66.0</td>
</tr>
<tr>
<td>403.gcc</td>
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<td>64.0</td>
<td>87.0</td>
</tr>
<tr>
<td>429.mcf</td>
<td>63</td>
<td>58.9</td>
<td>87.0</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>63</td>
<td>57.3</td>
<td>87.0</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>63</td>
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<td>85.4</td>
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<tr>
<td>458.sjeng</td>
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<td>76.4</td>
<td>73.5</td>
</tr>
<tr>
<td>462.libquantum</td>
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<td>62.9</td>
<td>64.0</td>
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<td>464.h264ref</td>
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<td>94.2</td>
</tr>
<tr>
<td>471.omnetpp</td>
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</tr>
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<td>473.astar</td>
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<td>483.xalancbmk</td>
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**SPECint_rate_base2006 = 76.2**

**SPECint_rate2006 = 83.9**
Fujitsu Limited

Fujitsu SPARC Enterprise T5120 (gccfss)

SPECint_rate2006 = 83.9
SPECint_rate_base2006 = 76.2

CPU2006 license: 19
Test sponsor: Fujitsu Limited
Tested by: Sun Microsystems

Results Table

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<thead>
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<td>473.astar</td>
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<td>4613</td>
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</tr>
</tbody>
</table>

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

Compiler Invocation Notes

The compiler is gccfss, "GCC for SPARC Systems", which combines gcc with the Sun Code Generator for SPARC systems. It is invoked as "gcc", and accepts source code compatible with GCC 4.2. For more information, including support, see http://cooltools.sunsource.net/gcc/

Operating System Notes

Processes were bound to cores using "submit" and "pbind". A processor set was created using

```
perset -c 1-63
```

and the runspec process was placed into the set using

```
perset -e 1
```

ulimit -s 131072 was used to allow the stack to grow up to 131072 KB (aka 128 MB). Note that saying "131072" is preferable to "unlimited", because there is a tradeoff between space for the stack vs. space for the heap.

/etc/system parameters

```
autoup=600
```

Causes pages older than the listed number of seconds to be written by fsflush.

```
tune_t_fsflushr=10
```

Controls how many seconds elapse between runs of the page flush daemon, fsflush.

Continued on next page
Fujitsu Limited

Fujitsu SPARC Enterprise T5120 (gccfss)

**SPECint_rate2006 = 83.9**

**SPECint_rate_base2006 = 76.2**

**Operating System Notes (Continued)**

The "webconsole" service was turned off using `svcadm disable webconsole`

**Platform Notes**

This result was measured on a Sun SPARC Enterprise T5120. These models are electronically equivalent:
- Sun SPARC Enterprise T5120
- Fujitsu SPARC Enterprise T5120

**Base Compiler Invocation**

C benchmarks:
- `gcc`

C++ benchmarks:
- `g++`

**Base Portability Flags**

- `400.perlbench`: `-DSPEC_CPU_SOLARIS_SPARC`
- `462.libquantum`: `-DSPEC_CPU_SOLARIS -DSPEC_CPU_NEED_COMPLEX_I`
- `483.xalancbmk`: `-DSPEC_CPU_SOLARIS`

**Base Optimization Flags**

C benchmarks:
- `-fast -xipo=2 -xpagesize=4M -xprefetch=no%auto`

C++ benchmarks:
- `-fast -xipo=2 -xpagesize=4M -xprefetch=no%auto`

**Peak Compiler Invocation**

C benchmarks:
- `gcc`

C++ benchmarks:
- `g++`
Fujitsu Limited

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Peak Portability Flags

400.perlbench: -DSPEC_CPU_SOLARIS_SPARC
462.libquantum: -DSPEC_CPU_SOLARIS -DSPEC_CPU_NEED_COMPLEX_I
483.xalancbmk: -DSPEC_CPU_SOLARIS

Peak Optimization Flags

C benchmarks:

400.perlbench: -xprofile=collect:/feedback(pass 1)
-xfast -xipo=2
-xpagesize=4M -xprefetch=no%auto -xalias_level=std
-xrestrict -1fast

401.bzip2: -xprofile=collect:/feedback(pass 1)
-xfast -xipo=2
-xpagesize=4M -xprefetch=no%auto -xalias_level=strong

403.gcc: -xprofile=collect:/feedback(pass 1)
-xfast -xipo=2
-xpagesize=4M -xprefetch=no%auto -xalias_level=std

429.mcf: basepeak = yes

445.gobmk: -xprofile=collect:/feedback(pass 1)
-xfast -xpagesize=4M
-xalias_level=std -xrestrict

456.hmmer: -xprofile=collect:/feedback(pass 1)
-xfast -xpagesize=4M -xalias_level=std

458.sjeng: -xprofile=collect:/feedback(pass 1)
-xfast -xpagesize=4M -xprefetch=no%auto

462.libquantum: -fast -xipo=2

464.h264ref: Same as 403.gcc

C++ benchmarks:

471.omnetpp: -xprofile=collect:/feedback(pass 1)
-xfast -xpagesize=4M -xalias_level=std

473.astar: -xprofile=collect:/feedback(pass 1)
-xfast -xpagesize=4M -xprefetch=no%auto -xalias_level=std -1fast

Continued on next page
SPEC CINT2006 Result

Fujitsu Limited

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Peak Optimization Flags (Continued)

483.xalancbmk: -xprofile=collect:.feedback(pass 1)
-xprofile=use:.feedback(pass 2) -fast -xipo=2
-xpagesize=4M -xprefetch=no%auto -1fast

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-and-gccfss4.2.20090714.01.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-and-gccfss4.2.20090714.01.xml

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

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