## SPECint®2006 Result

**Fujitsu Limited**

**Fujitsu SPARC Enterprise M4000**

<table>
<thead>
<tr>
<th>SPECint®2006</th>
<th>10.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_base2006</td>
<td>9.29</td>
</tr>
</tbody>
</table>

**CPU2006 license:** 19  
**Test sponsor:** Fujitsu Limited  
**Tested by:** Fujitsu Limited  
**Test date:** Mar-2007  
**Hardware Availability:** May-2007  
**Software Availability:** May-2007

**CPU Name:** SPARC64 VI  
**CPU Characteristics:**  
**CPU MHz:** 2150  
**FPU:** Integrated  
**CPU(s) enabled:** 8 cores, 4 chips, 2 cores/chip, 2 threads/core  
**CPU(s) orderable:** 1 or 2 CPU/M, each CPUM contains 2 CPU chips  
**Primary Cache:** 128 KB I + 128 KB D on chip per core  
**Secondary Cache:** 5 MB I+D on chip per chip  
**L3 Cache:** None  
**Other Cache:** None  
**Memory:** 16 GB (16 x 1 GB, see notes for details)  
**Disk Subsystem:** 73 GB 10,000 RPM Fujitsu MAY2073RC SAS  
**Other Hardware:** None

**Operating System:** Solaris 10 11/06  
**Compiler:** Sun Studio 12 (Early Access)  
**Auto Parallel:** No  
**File System:** ufs  
**System State:** Default  
**Base Pointers:** 32-bit  
**Peak Pointers:** 32-bit  
**Other Software:** None

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### Benchmark Results

![Benchmark Graph]

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>SPECint®2006</th>
<th>SPECint_base2006</th>
</tr>
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<tbody>
<tr>
<td>400.perlbench</td>
<td>9.19</td>
<td>10.7</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>7.62</td>
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<tr>
<td>403.gcc</td>
<td>7.38</td>
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<tr>
<td>429.mcf</td>
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</tr>
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<td>445.gobmk</td>
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<tr>
<td>456.hmmer</td>
<td>6.85</td>
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<td>458.sjeng</td>
<td>8.13</td>
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<tr>
<td>462.libquantum</td>
<td>7.42</td>
<td>22.3</td>
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<tr>
<td>464.h264ref</td>
<td>15.8</td>
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<tr>
<td>471.omnetpp</td>
<td>5.46</td>
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</tr>
<tr>
<td>473.astar</td>
<td>4.54</td>
<td>8.94</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>6.32</td>
<td>9.93</td>
</tr>
</tbody>
</table>

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**Hardware**

**Software**

Standard Performance Evaluation Corporation  
info@spec.org  
http://www.spec.org/
# SPEC CINT2006 Result

**Fujitsu Limited**

**Fujitsu SPARC Enterprise M4000**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
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Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Operating System Notes

**Shell Environment:**
- Stack size set to unlimited via "ulimit -s unlimited"
- MPSSHEAP=4MB
- MPSSSTACK=4MB
- MADV=access_lwp
- LD_PRELOAD=mpss.so.1:madv.so.1

The run was bound to processor #27 using the "psrset" command
- `psrset -c processor id...`: creates a set
- `psrset -e set_id command`: runs command on a set

**System Tunables:**

`(/etc/system parameters)`
- `maxphys=4194304`
- `maxpgio=1024`
- `tune_t_fsflushr=1`
- `autoup=60`
- `bufhwm=3000`

Memory byte limit for caching I/O buffers

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Fujitsu Limited

Fujitsu SPARC Enterprise M4000

**SPECint2006 = 10.8**

**SPECint_base2006 = 9.29**

CPU2006 license: 19
Test sponsor: Fujitsu Limited
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Operating System Notes (Continued)

```
segmap_percent=1
Set maximum percent memory for file system cache
```

Platform Notes

"CPUM" = CPU Module; each module holds two CPU chips.

Memory was 8-way interleaved by filling same capacity DIMMs in every other slot.

This result was measured on a Fujitsu SPARC Enterprise M4000 Server. Note that the Fujitsu SPARC Enterprise M4000 and Sun SPARC Enterprise M4000 are electrically equivalent.

Base Compiler Invocation

C benchmarks:
```
/opt/SUNWspro12_EA070303/bin/cc
```

C++ benchmarks:
```
/opt/SUNWspro12_EA070303/bin/CC
```

Base Portability Flags

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

Base Optimization Flags

C benchmarks:
```
-fast -xipo=2 -xtarget=sparc64vi -xarch=sparcmaf -fma=fused
-Wc,-fma=fused -xprefetch_level=2
```

C++ benchmarks:
```
-library=stlport4 -fast -xipo=2 -xtarget=sparc64vi -xarch=sparcmaf
-fma=fused -Qoption cg -fma=fused -xprefetch_level=2
```
Fujitsu Limited
Fujitsu SPARC Enterprise M4000

SPECint2006 = 10.8
SPECint_base2006 = 9.29

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

Test date: Mar-2007
Hardware Availability: May-2007
Software Availability: May-2007

Peak Compiler Invocation

C benchmarks:
/opt/SUNWspro12_EA070303/bin/cc

C++ benchmarks:
/opt/SUNWspro12_EA070303/bin/CC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_SOLARIS_SPARC
403.gcc: -DSPEC_CPU_SOLARIS
462.libquantum: -DSPEC_CPU_SOLARIS
483.xalancbmk: -DSPEC_CPU_SOLARIS

Peak Optimization Flags

C benchmarks:

400.perlbench: -xprofile=collect:/feedback(pass 1)
   -xprofile=use:/feedback(pass 2) -fast -xipo=2
   -xtarget=sparc64vi -xarch=sparcfmaf -fma=fused
   -Wc,-fma=fused -xprefetch_level=2 -xalias_level=std
   -xrestrict -lfast

401.bzip2: -xprofile=collect:/feedback(pass 1)
   -xprofile=use:/feedback(pass 2) -fast -xipo=2
   -xtarget=sparc64vi -xarch=sparcfmaf -fma=fused
   -Wc,-fma=fused -xalias_level=strong

403.gcc: -xprofile=collect:/feedback(pass 1)
   -xprofile=use:/feedback(pass 2) -fast -xipo=2
   -xtarget=sparc64vi -xarch=sparcfmaf -fma=fused
   -Wc,-fma=fused -xalias_level=std

429.mcf: -xprofile=collect:/feedback(pass 1)
   -xprofile=use:/feedback(pass 2) -fast -xipo=2
   -xtarget=sparc64vi -xarch=sparcfmaf -fma=fused
   -Wc,-fma=fused -xprefetch_level=3 -W2,-Apf:noinnerllist
   -W2,-Apf:llist=3

445.gobmk: -xprofile=collect:/feedback(pass 1)
   -xprofile=use:/feedback(pass 2) -fast -xipo=2
   -xtarget=sparc64vi -xarch=sparcfmaf -fma=fused
   -Wc,-fma=fused

456.hmmer: Same as 403.gcc

Continued on next page
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Fujitsu SPARC Enterprise M4000

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**Peak Optimization Flags (Continued)**

458.sjeng: Same as 445.gobmk

462.libquantum: basepeak = yes

464.h264ref: Same as 403.gcc

C++ benchmarks:

471.omnetpp: -library=stlport4 -xprofile=collect:.feedback(pass 1)
- xprofile=use:.feedback(pass 2) -fast -xipo=2
- xtarget=sparc64vi -xarch=sparcfmaf -fma=fused
- Qoption cg -fma=fused

473.astar: -library=stlport4 -xprofile=collect:.feedback(pass 1)
- xprofile=use:.feedback(pass 2) -fast -xipo=2
- xtarget=sparc64vi -xarch=sparcfmaf -fma=fused
- Qoption cg -fma=fused -xalias_level=compatible -lfast

483.xalancbmk: -library=stlport4 -xprofile=collect:.feedback(pass 1)
- xprofile=use:.feedback(pass 2) -fast -xipo=2
- xtarget=sparc64vi -xarch=sparcfmaf -fma=fused
- Qoption cg -fma=fused -lfast

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12.20090714.02.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12.20090714.02.xml

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

Tested with SPEC CPU2006 v1.0.