# SPEC® CINT2006 Result

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## Fujitsu Limited

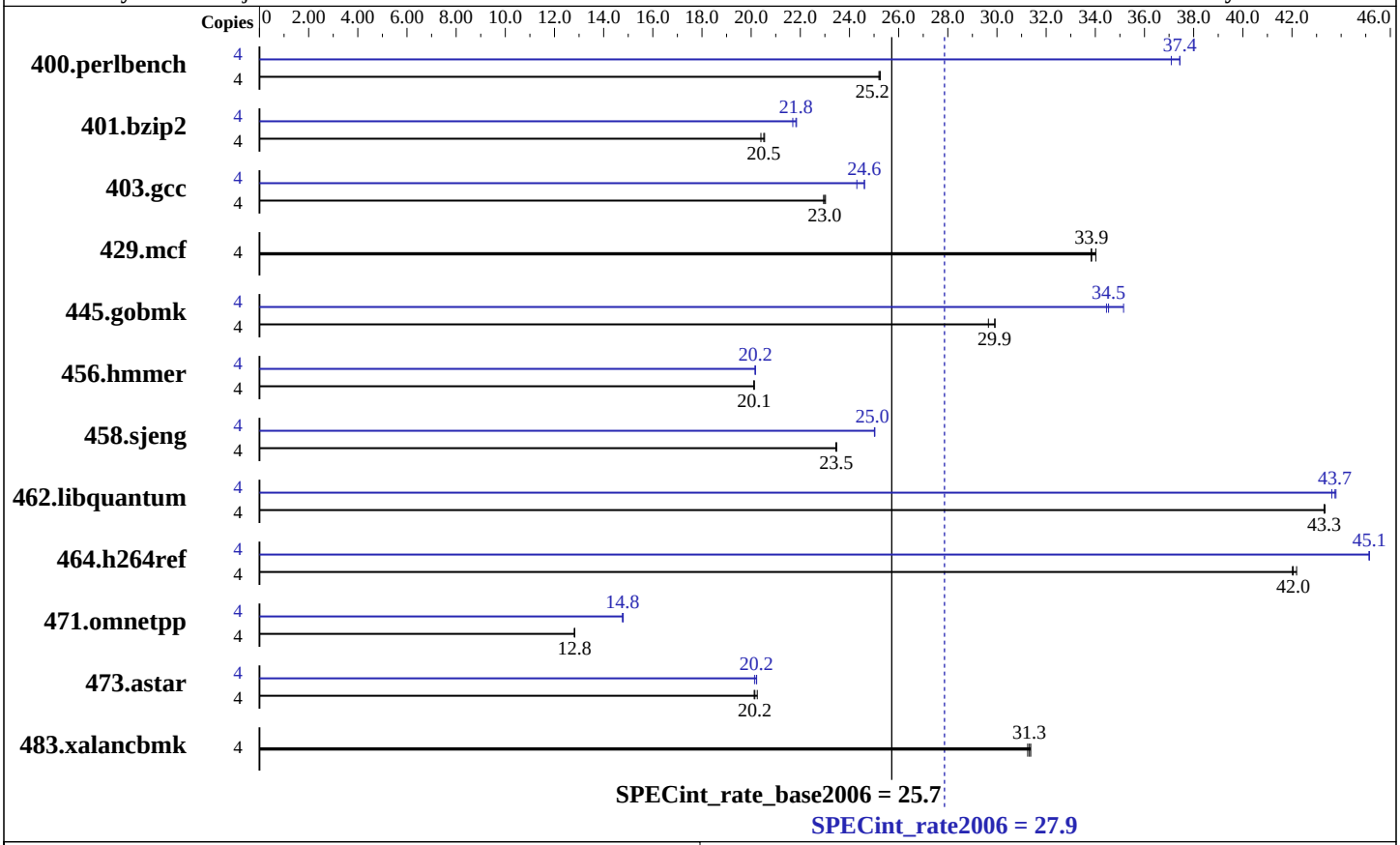
## Fujitsu SPARC Enterprise M3000

SPECint®_rate2006 = 27.9

SPECint_rate_base2006 = 25.7

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

**Test date:** Sep-2008
**Hardware Availability:** Nov-2008
**Software Availability:** Oct-2008




### Hardware

| | |
|---|---|
| CPU Name: | SPARC64 VII |
| CPU Characteristics: | 2 Cores |
| CPU MHz: | 2520 |
| FPU: | Integrated |
| CPU(s) enabled: | 2 cores, 1 chip, 2 cores/chip, 2 threads/core |
| CPU(s) orderable: | 1 chip |
| Primary Cache: | 64 KB I + 64 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 (2 GB x 8), 2-way interleaved |
| Disk Subsystem: | 73 GB 10,000 RPM Fujitsu MAY2073RC SAS |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | Solaris 10 10/08 |
| Compiler: | Sun Studio 12 with patches 124861-08, 124863-06, 124867-07 (see patch information below) |
| Auto Parallel: | No |
| File System: | ufs |
| System State: | Default |
| Base Pointers: | 32-bit |
| Peak Pointers: | 32-bit |
| Other Software: | None |

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## Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 4 | 1551 | 25.2 | 1548 | 25.3 | **1549** | **25.2** | 4 | 1054 | 37.1 | **1044** | **37.4** | 1044 | 37.4 |
| 401.bzip2 | 4 | **1882** | **20.5** | 1879 | 20.5 | 1892 | 20.4 | 4 | 1767 | 21.8 | **1769** | **21.8** | 1779 | 21.7 |
| 403.gcc | 4 | **1401** | **23.0** | 1398 | 23.0 | 1403 | 22.9 | 4 | **1309** | **24.6** | 1308 | 24.6 | 1325 | 24.3 |
| 429.mcf | 4 | 1078 | 33.8 | **1078** | **33.9** | 1072 | 34.0 | 4 | 1078 | 33.8 | **1078** | **33.9** | 1072 | 34.0 |
| 445.gobmk | 4 | **1403** | **29.9** | 1415 | 29.7 | 1402 | 29.9 | 4 | 1194 | 35.1 | 1218 | 34.5 | **1215** | **34.5** |
| 456.hmmer | 4 | 1854 | 20.1 | **1855** | **20.1** | 1856 | 20.1 | 4 | 1850 | 20.2 | **1850** | **20.2** | 1851 | 20.2 |
| 458.sjeng | 4 | 2062 | 23.5 | **2062** | **23.5** | 2064 | 23.4 | 4 | **1934** | **25.0** | 1935 | 25.0 | 1934 | 25.0 |
| 462.libquantum | 4 | 1914 | 43.3 | 1912 | 43.3 | **1914** | **43.3** | 4 | 1900 | 43.6 | 1893 | 43.8 | **1894** | **43.7** |
| 464.h264ref | 4 | 2107 | 42.0 | 2098 | 42.2 | **2105** | **42.0** | 4 | 1961 | 45.1 | **1961** | **45.1** | 1961 | 45.1 |
| 471.omnetpp | 4 | 1950 | 12.8 | **1950** | **12.8** | 1952 | 12.8 | 4 | 1689 | 14.8 | **1692** | **14.8** | 1693 | 14.8 |
| 473.astar | 4 | **1393** | **20.2** | 1395 | 20.1 | 1387 | 20.2 | 4 | **1389** | **20.2** | 1388 | 20.2 | 1394 | 20.1 |
| 483.xalancbmk | 4 | 880 | 31.4 | 883 | 31.2 | **881** | **31.3** | 4 | 880 | 31.4 | 883 | 31.2 | **881** | **31.3** |

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

## Compiler Invocation Notes

```
Sun Studio compiler patches are available at
   http://developers.sun.com/sunstudio/downloads/patches/ss12_patches.jsp
```

## Submit Notes

```
Processes were assigned to specific processors using 'pbind' commands.  The config
file option 'submit' was used, along with a list of processors in the 'BIND'
variable, to generate the pbind commands.  (For details, please see the config file.)
```

## Operating System Notes

```
Shell Environments:
   Default setting.

System Tunables:
(/etc/system parameters)

   tune_t_fsflushr=10
      Controls how many seconds elapse between runs of the
      page flush daemon, fsflush.
   autoup=600
      Causes pages older than the listed number of seconds to
      be written by fsflush.
   bufhwm=3000
      Memory byte limit for caching I/O buffers.
```

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## Operating System Notes (Continued)

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

 Other System Settings:

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

## Platform Notes

```
 Memory is 2-way interleaved by filling all slots with the same
 capacity DIMMs.

 This result is measured on a Fujitsu SPARC Enterprise M3000 Server.
 Note that the Fujitsu SPARC Enterprise M3000 and Sun SPARC Enterprise
 M3000 are electrically equivalent.
```

## Base Compiler Invocation

C benchmarks:
cc

C++ benchmarks:
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 -fma=fused -xipo=2 -xpagesize=4M -xprefetch_level=1
-xalias_level=std -ll2amm

C++ benchmarks:
-library=stlport4 -fast -fma=fused -xipo=2 -xpagesize=4M
-xprefetch_level=2 -xalias_level=compatible -lfast

## Base Other Flags

C benchmarks:
`-xjobs=4`

C++ benchmarks:
`-xjobs=4`

## Peak Compiler Invocation

C benchmarks:
`cc`

C++ benchmarks:
`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 -fma=fused -xpagesize=4M -xipo=2 -xalias_level=std -Xc -xrestrict -lfast`

401.bzip2: `-xprofile=collect:./feedback`(pass 1)
`-xprofile=use:./feedback`(pass 2) `-fast -fma=fused -xpagesize=4M -xalias_level=strong`

403.gcc: `-xprofile=collect:./feedback`(pass 1)
`-xprofile=use:./feedback`(pass 2) `-fast -fma=fused -xpagesize=4M -xipo=2 -xalias_level=std -xprefetch=no -ll2amm`

429.mcf: `basepeak = yes`

445.gobmk: `-xprofile=collect:./feedback`(pass 1)
`-xprofile=use:./feedback`(pass 2) `-fast -fma=fused -xpagesize=4M -xalias_level=std -xrestrict`

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## Peak Optimization Flags (Continued)

456.hmmer: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2

458.sjeng: Same as 456.hmmer

462.libquantum: -fast -fma=fused -xpagesize=4M -xipo=2 -xprefetch=no
-lbsdmalloc

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xalias_level=std -m32
-xarch=sparcvis2 -xprefetch=no -ll2amm

C++ benchmarks:

471.omnetpp: -library=stlport4 -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible -xipo=2
-xprefetch_level=2 -Qoption cg -Qlp-av=0 -lfast

473.astar: -library=stlport4 -fast -fma=fused -xpagesize=4M
-xalias_level=compatible -xipo=2 -xprefetch_level=2 -lfast

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:
-xjobs=4

C++ benchmarks:
-xjobs=4

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.r3.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.r3.xml

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