



SPEC® CINT2006 Result

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Fujitsu

SPECint®2006 = 13.6

Fujitsu SPARC Enterprise M8000

SPECint_base2006 = 12.4

CPU2006 license: 19

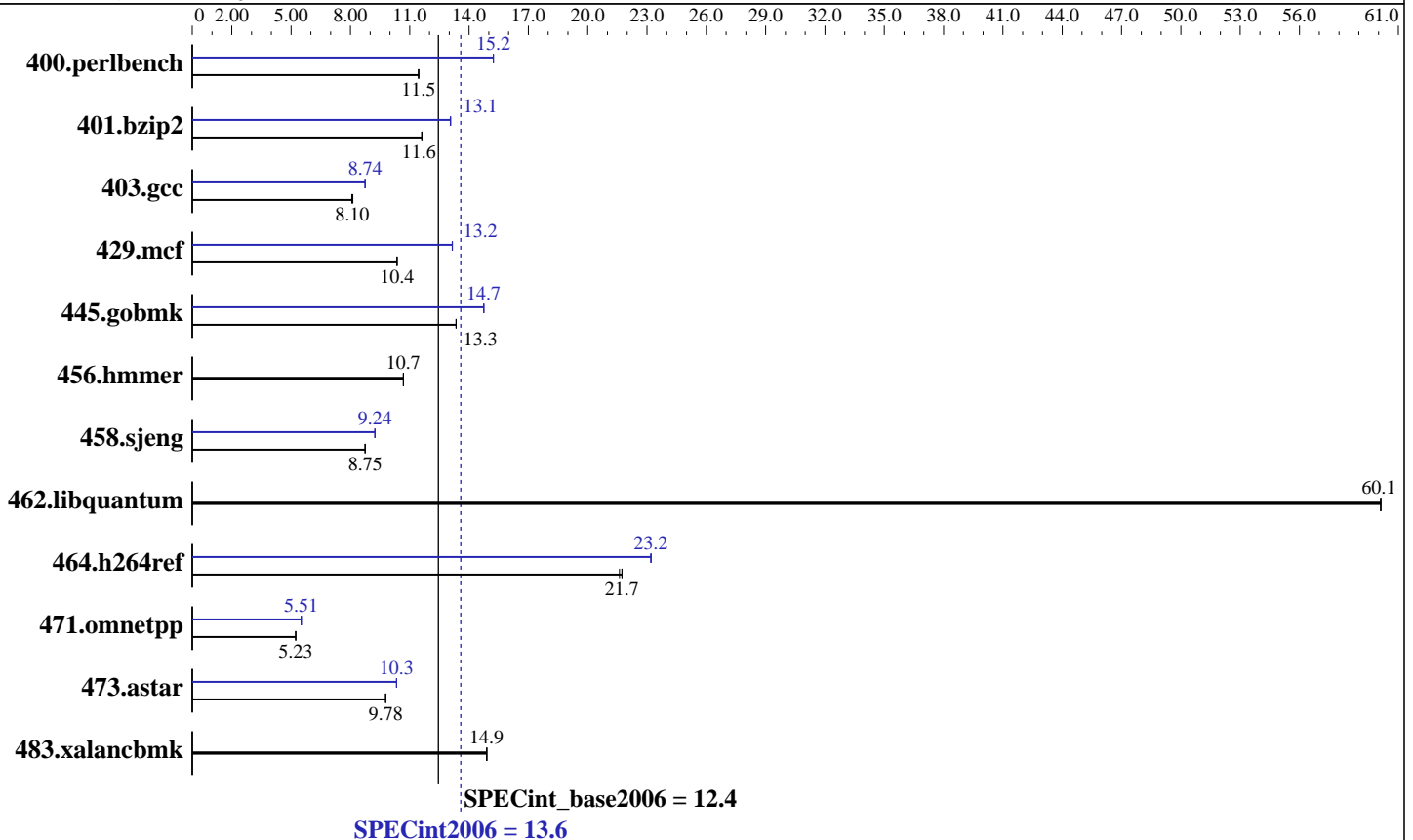
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jul-2009

Hardware Availability: Nov-2009

Software Availability: Jun-2009



Hardware

CPU Name: SPARC64 VII
 CPU Characteristics:
 CPU MHz: 2880
 FPU: Integrated
 CPU(s) enabled: 64 cores, 16 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 to 4 CMUs; each CMU contains 2 or 4 CPU chips
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 6 MB I+D on chip per chip
 L3 Cache: None
 Other Cache: None
 Memory: 384 GB (64 x 2 GB + 64 x 4 GB), 8-way interleaved
 Disk Subsystem: 1 x Seagate Savvio 10K.2 (146 GB 10,000 RPM SAS)
 Other Hardware: None

Software

Operating System: Solaris 10 5/09 with patches 119963-13, 120753-06, 118683-03
 Compiler: Sun Studio 12 Update 1
 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 | | | | | |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|-------------|-------------|-------------|------------|-------------|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 853 | 11.5 | 853 | 11.5 | 854 | 11.4 | 641 | 15.2 | 642 | 15.2 | 642 | 15.2 |
| 401.bzip2 | 831 | 11.6 | 831 | 11.6 | 831 | 11.6 | 739 | 13.1 | 739 | 13.1 | 738 | 13.1 |
| 403.gcc | 998 | 8.07 | 991 | 8.12 | 994 | 8.10 | 921 | 8.74 | 921 | 8.74 | 921 | 8.74 |
| 429.mcf | 881 | 10.4 | 880 | 10.4 | 881 | 10.4 | 693 | 13.2 | 693 | 13.2 | 694 | 13.1 |
| 445.gobmk | 786 | 13.3 | 786 | 13.3 | 786 | 13.3 | 711 | 14.7 | 711 | 14.7 | 711 | 14.7 |
| 456.hammer | 874 | 10.7 | 874 | 10.7 | 874 | 10.7 | 874 | 10.7 | 874 | 10.7 | 874 | 10.7 |
| 458.sjeng | 1383 | 8.75 | 1383 | 8.75 | 1385 | 8.74 | 1310 | 9.24 | 1309 | 9.24 | 1309 | 9.24 |
| 462.libquantum | 345 | 60.1 | 345 | 60.1 | 345 | 60.1 | 345 | 60.1 | 345 | 60.1 | 345 | 60.1 |
| 464.h264ref | 1018 | 21.7 | 1024 | 21.6 | 1019 | 21.7 | 954 | 23.2 | 953 | 23.2 | 954 | 23.2 |
| 471.omnetpp | 1194 | 5.23 | 1194 | 5.23 | 1195 | 5.23 | 1135 | 5.51 | 1134 | 5.51 | 1132 | 5.52 |
| 473.astar | 717 | 9.79 | 718 | 9.78 | 718 | 9.78 | 679 | 10.3 | 679 | 10.3 | 679 | 10.3 |
| 483.xalancbmk | 463 | 14.9 | 463 | 14.9 | 463 | 14.9 | 463 | 14.9 | 463 | 14.9 | 463 | 14.9 |

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/ss12u1_patches.jsp

Submit Notes

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

Operating System Notes

Shell Environments:

ulimit -s 131072 was used to limit the space consumed by the stack.(making more space available for the heap)

System Tunables:

(/etc/system parameters)

tune_t_fsflushr=10

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

autoup=300

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

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Operating System Notes (Continued)

```
bufhwm=3000
Memory byte limit for caching I/O buffers.
segmap_percent=3
Set maximum percent memory for file system cache.
lpg_alloc_prefer=1
Set lgroup page allocation to strongly prefer local pages.
```

Other System Settings:

The webconsole service was turned off using svcadm disable webconsole.

Platform Notes

Memory is 8-way interleaved by filling each CMU's slots with the same capacity DIMMs.

This result is measured on a Fujitsu SPARC Enterprise M8000 Server.
Note that the Fujitsu SPARC Enterprise M8000 and Sun SPARC Enterprise M8000 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:
-xdepend -library=stlport4 -fast -fma=fused -xipo=2 -xpagesize=4M
-xprefetch_level=2 -xalias_level=compatible -lfast



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Base Other Flags

C benchmarks:
-xjobs=16 -V -#
C++ benchmarks:
-xjobs=16 -verbose=diags,version

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 -xipo=2
-xalias_level=std -xprefetch_level=1 -xrestrict -lfast
401.bzip2: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-fma=fused -xalias_level=strong
403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-fma=fused -xipo=2 -xalias_level=std -xprefetch=no
-l12amm
429.mcf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xprefetch_level=3 -W2,-Apf:l1list=3
-W2,-Apf:noinnerl1list -Wc,-Qlp-prt=1 -Wc,-Qlp-prwt=3

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Peak Optimization Flags (Continued)

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

456.hmmr: basepeak = yes

458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2

462.libquantum: basepeak = yes

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xalias_level=std -xprefetch=no -l12amm

C++ benchmarks:

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

473.astar: -xdepend -library=stlport4
-xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xalias_level=compatible -fma=fused -xipo=2
-xprefetch_level=2 -xprefetch=latx:0.5 -lfast

483.xalanbmk: basepeak = yes

Peak Other Flags

C benchmarks:

-xjobs=16 -V -#

C++ benchmarks:

-xjobs=16 -verbose=diags,version

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-12u1-and-gccfss4.2.r4.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-12u1-and-gccfss4.2.r4.xml>



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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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