



SPEC® CINT2006 Result

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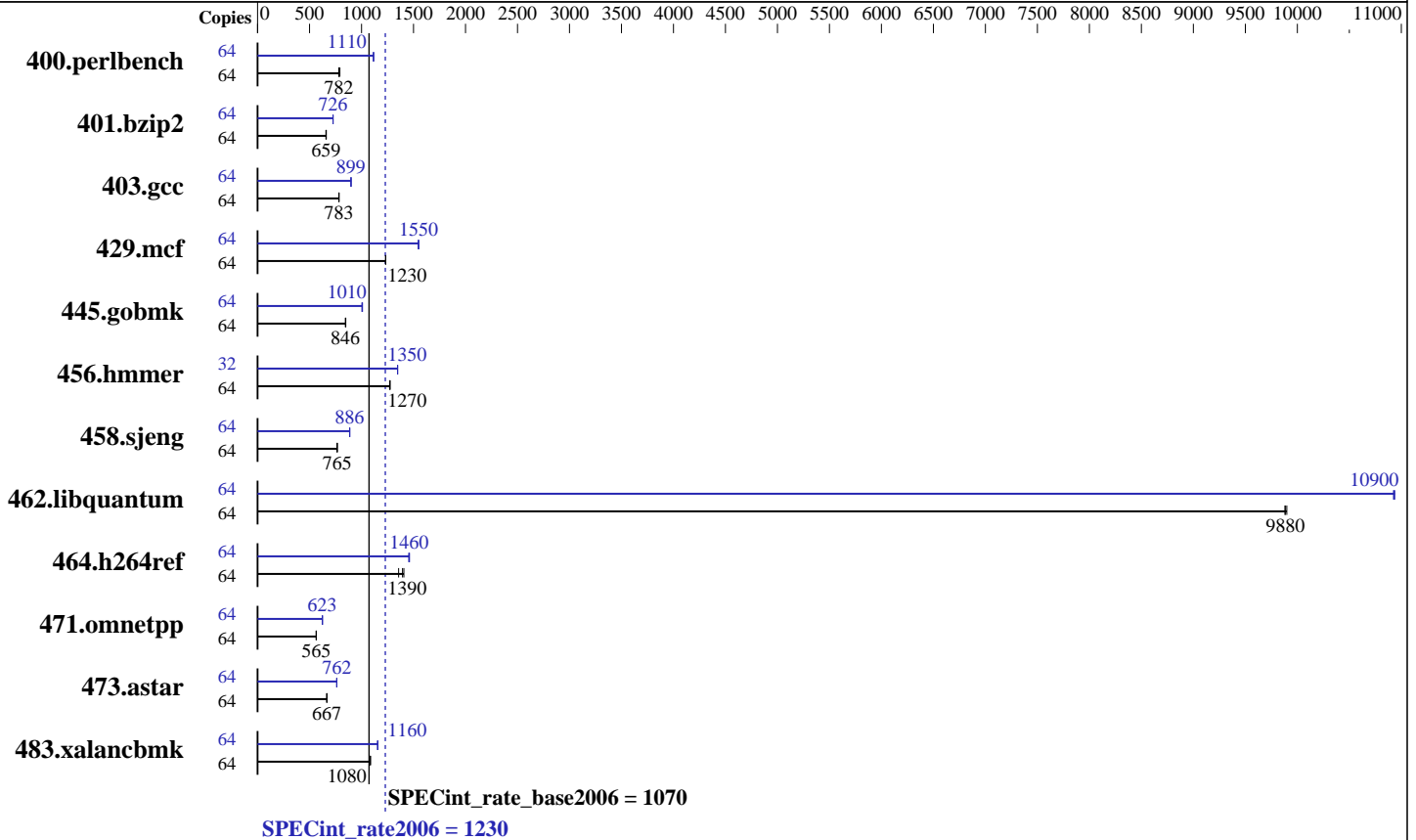
Fujitsu Fujitsu SPARC M10-4

SPECint®_rate2006 = 1230

SPECint_rate_base2006 = 1070

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

Test date: Feb-2015
Hardware Availability: Apr-2015
Software Availability: Jan-2015



Hardware

CPU Name: SPARC64 X+
 CPU Characteristics:
 CPU MHz: 3700
 FPU: Integrated
 CPU(s) enabled: 32 cores, 4 chips, 8 cores/chip, 2 threads/core
 CPU(s) orderable: 2 or 4 CPU chips;
 each CPU chip contains 0, 1, 2, .. 32 active threads;
 the number of orderable total cores is 4, 6, 8, .. 64
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 24 MB I+D on chip per chip
 L3 Cache: None
 Other Cache: None
 Memory: 512 GB (32 x 16 GB 2Rx4 PC3L-12800R-11, ECC)
 Disk Subsystem: tmpfs
 600 GB 10,025 RPM Toshiba MBF2600RC SAS (for system disk)
 Other Hardware: None

Software

Operating System: Solaris 11.2 SRU 6.4
 Compiler: C/C++: Version 12.4 of Oracle Solaris Studio
 Auto Parallel: No
 File System: tmpfs
 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	64	799	782	790	792	801	781	64	560	1120	561	1110	561	1110
401.bzip2	64	937	659	939	658	934	661	64	850	727	851	726	851	726
403.gcc	64	657	784	658	783	659	781	64	573	899	572	900	574	898
429.mcf	64	474	1230	474	1230	473	1230	64	378	1550	377	1550	377	1550
445.gobmk	64	791	849	794	846	794	846	64	665	1010	668	1000	668	1010
456.hammer	64	470	1270	469	1270	469	1270	32	222	1350	222	1350	222	1350
458.sjeng	64	1015	763	1008	768	1012	765	64	875	885	874	886	873	887
462.libquantum	64	134	9880	134	9900	134	9880	64	121	10900	121	10900	121	10900
464.h264ref	64	1044	1360	1006	1410	1016	1390	64	974	1450	971	1460	969	1460
471.omnetpp	64	708	565	709	565	709	564	64	642	623	641	624	642	623
473.astar	64	674	667	674	667	674	666	64	589	762	589	763	590	761
483.xalancbmk	64	407	1090	407	1080	407	1080	64	382	1160	382	1160	382	1160

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

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:

ulimit -s 131072 was used to limit the space consumed by the stack (and therefore make more space available to the heap).

The "Logical Domains Manager" service was turned off using the command "svcadm disable ldmd".

System Tunables:

(/etc/system parameters)

autoup = 1555200

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

tune_t_fsflushr = 259200

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

Platform Notes

Sysinfo program /export/cpu2006-v1.2/config/sysinfo

\$Rev: 6874 \$ \$Date:: 2013-11-20 #\$ 5ec117938769af2bf59ae0ed87ea9ccd

running on 4S-1049-D0 Thu Feb 5 13:53:07 2015

This section contains SUT (System Under Test) info as seen by

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Platform Notes (Continued)

some common utilities. To remove or add to this section, see:
<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

```
From /usr/sbin/psrinfo
SPARC64-X+ (chipid 0, clock 3700 MHz)
SPARC64-X+ (chipid 1, clock 3700 MHz)
SPARC64-X+ (chipid 2, clock 3700 MHz)
SPARC64-X+ (chipid 3, clock 3700 MHz)
4 chips
64 threads
3700 MHz
```

From kstat: 32 cores

From prtconf: 522496 Megabytes

```
/etc/release:
Oracle Solaris 11.2 SPARC
uname -a:
SunOS 4S-1049-D0 5.11 11.2 sun4v sparcsun4v
```

```
disk: df -h $SPEC
Filesystem      Size  Used Available Capacity  Mounted on
rpool/export    547G  2.6G    401G      1%    /export
```

(End of data from sysinfo program)

General Notes

File System:
tmpfs: output_root was used to put run directories in /tmp/cpu2006
zfs: operating system

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

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Base Portability Flags (Continued)

483.xalancbmk: -DSPEC_CPU_SOLARIS

Base Optimization Flags

C benchmarks:

-fast -xtarget=sparc64xplus -xipo=2 -xpagesize=4M -xsegment_align=4M
-xalias_level=std

C++ benchmarks:

-fast -xtarget=sparc64xplus -xipo=2 -xpagesize=4M -xsegment_align=4M
-xalias_level=compatible -library=stlport4 -lfast

Base Other Flags

C benchmarks:

-xjobs=8

C++ benchmarks:

-xjobs=8

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:

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Peak Optimization Flags (Continued)

- 400.perlbench: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xtarget=sparc64xplus -xpagesize=4M -xsegment_align=256M
-xipo=1 -xalias_level=std -xrestrict -xprefetch=no%auto
-xO4 -lfast
- 401.bzip2: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xtarget=sparc64xplus -xpagesize=4M -xsegment_align=256M
-xalias_level=strong -xprefetch=no%auto
-W2,-Ainline:rs=1000 -W2,-Ainline:cs=500
-W2,-Ainline:inc=60 -lfast
- 403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xtarget=sparc64xplus -xpagesize=4M -xsegment_align=256M
-xO4 -xipo=2 -xprefetch=no%auto
- 429.mcf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64vii
-xipo=2 -xpagesize=4M -xalias_level=std -xprefetch_level=1
-xprefetch=latx:0.2 -W2,-Asac
- 445.gobmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xtarget=sparc64xplus -xpagesize=4M -xsegment_align=256M
-xO4 -xalias_level=std -xrestrict -xprefetch=no%auto
-Wc,-Qiselect-funcalign=64
- 456.hmmer: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xtarget=sparc64xplus -xpagesize=4M -xsegment_align=256M
-xipo=1 -xalias_level=std -xunroll=8 -Wc,-Qms_pipe-pref
- 458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xtarget=sparc64xplus -xpagesize=4M -xsegment_align=256M
-xO4 -xipo=2 -xalias_level=std -xprefetch=no%auto
-Wc,-Qlu-en=1-t=4
- 462.libquantum: -fast -xtarget=sparc64xplus -xpagesize=4M
-xsegment_align=256M -m64 -xipo=2 -xprefetch=no%auto
-lbsdmalloc
- 464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xtarget=sparc64xplus -xpagesize=4M -xsegment_align=256M
-xalias_level=strong -xipo=1 -Wc,-Qiselect-funcalign=64

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Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xtarget=sparc64xplus -xpagesize=4M -xsegment_align=256M
-xipo=1 -xalias_level=compatible -xunroll=2
-xprefetch_level=3 -W2,-Asac -library=stlport4 -lfast

473.astar: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xtarget=sparc64xplus -xpagesize=4M -xsegment_align=256M
-xipo=2 -xalias_level=compatible -xunroll=6
-xrestrict=%source
-xprefetch_auto_type=indirect_array_access -library=stlport4
-lfast

483.xalancbmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xtarget=sparc64xplus -xpagesize=4M -xsegment_align=256M
-xipo=2 -xalias_level=compatible -xdepend
-xprefetch_level=3 -xprefetch=latx:0.4 -library=stlport4
-W2,-Asac -lfast

Peak Other Flags

C benchmarks:
-xjobs=8

C++ benchmarks:
-xjobs=8

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

<http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio12.4.html>
<http://www.spec.org/cpu2006/flags/Fujitsu-Mseries.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio12.4.xml>
<http://www.spec.org/cpu2006/flags/Fujitsu-Mseries.xml>



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

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