



SPEC® CINT2006 Result

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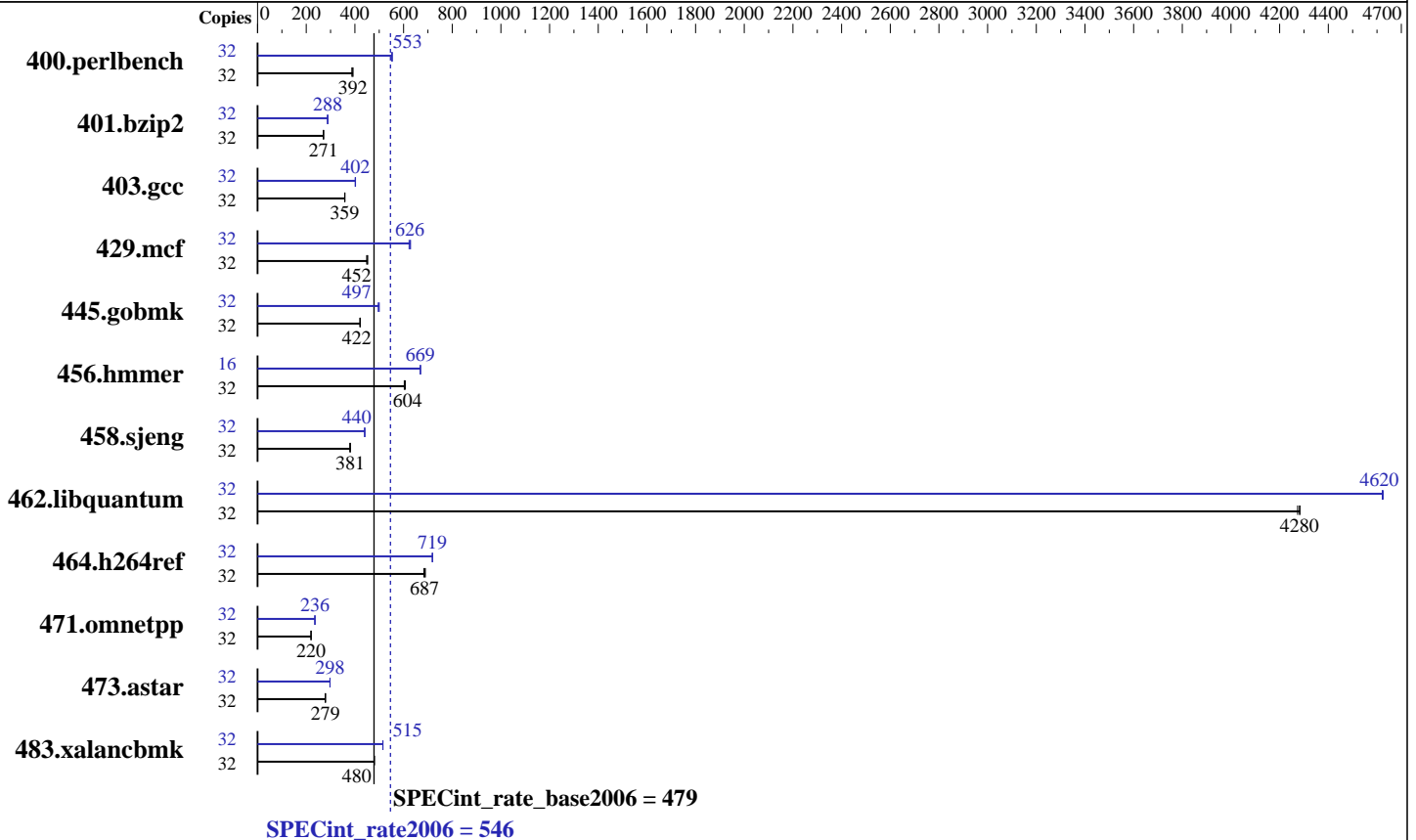
Fujitsu Fujitsu SPARC M10-4S

SPECint®_rate2006 = 546

SPECint_rate_base2006 = 479

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

Test date: Feb-2015
Hardware Availability: Apr-2014
Software Availability: Jan-2015



Hardware

CPU Name: SPARC64 X+
 CPU Characteristics:
 CPU MHz: 3700
 FPU: Integrated
 CPU(s) enabled: 16 cores, 1 chip, 16 cores/chip, 2 threads/core
 CPU(s) orderable: 1 to 16 BBs;
 each BB contains 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, .. 1024
 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: 128 GB (8 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	32	807	387	798	392	798	392	32	566	552	565	553	566	553
401.bzip2	32	1138	271	1138	271	1143	270	32	1070	289	1074	288	1072	288
403.gcc	32	718	359	718	359	720	358	32	640	403	642	401	641	402
429.mcf	32	651	448	646	452	646	452	32	469	623	466	626	464	629
445.gobmk	32	798	421	796	422	796	422	32	675	497	671	500	676	496
456.hammer	32	494	604	492	607	495	603	16	223	669	223	669	223	669
458.sjeng	32	1021	379	1016	381	1016	381	32	880	440	880	440	879	441
462.libquantum	32	155	4270	155	4280	155	4280	32	143	4630	143	4620	143	4620
464.h264ref	32	1036	684	1027	690	1031	687	32	986	718	986	719	985	719
471.omnetpp	32	910	220	909	220	910	220	32	848	236	848	236	848	236
473.astar	32	806	279	805	279	807	278	32	755	298	755	298	755	298
483.xalancbmk	32	461	479	460	480	460	480	32	429	515	429	515	429	515

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 Tue Feb 10 22:21:48 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)
1 chips
32 threads
3700 MHz
```

```
From kstat:          16 cores
```

```
From prtconf: 129280 Megabytes
```

```
/etc/release:
Oracle Solaris 11.2 SPARC
```

```
uname -a:
SunOS 4S-1049-D0 5.11 11.2 sun4v sparc sun4v
```

```
disk: df -h $SPEC
Filesystem          Size  Used  Available Capacity  Mounted on
rpool/export        547G  2.8G   401G          1%    /export
```

(End of data from sysinfo program)

General Notes

The Building Block (BB) is just a Fujitsu SPARC M10-4S that is the basic unit to be expanded as if stacking up children's blocks.

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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