SPEC® CINT2006 Result

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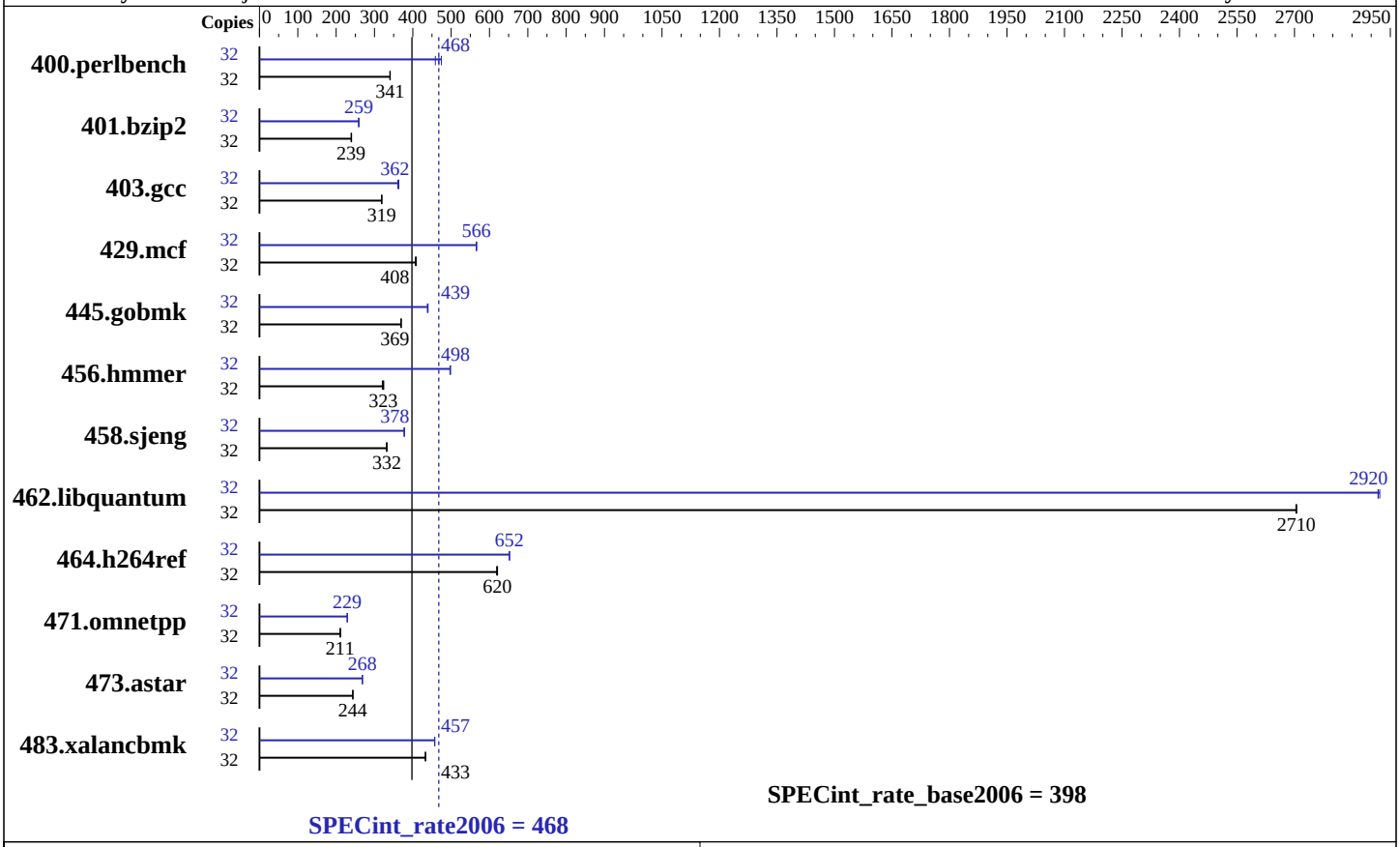
Fujitsu
Fujitsu SPARC M10-1

SPECint®_rate2006 = 468

SPECint_rate_base2006 = 398

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

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



Hardware

CPU Name:	SPARC64 X+
CPU Characteristics:	
CPU MHz:	3200
FPU:	Integrated
CPU(s) enabled:	16 cores, 1 chip, 16 cores/chip, 2 threads/core
CPU(s) orderable:	1 CPU chip; CPU chip contains 2, 4, 6, 8, 10, 12, 14, 16 cores
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	22 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 11.1 SRU 15.4
Compiler:	C/C++: Version 12.3 of Oracle Solaris Studio 10/13 Patch Set
Auto Parallel:	No
File System:	tmpfs (output_root was used to put run directories in /tmp/cpu2006) zfs
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	919	340	916	341	**918**	**341**	32	681	459	**668**	**468**	659	474
401.bzip2	32	1291	239	1285	240	**1290**	**239**	32	1192	259	**1193**	**259**	1193	259
403.gcc	32	809	318	807	319	**808**	**319**	32	**711**	**362**	714	361	709	364
429.mcf	32	717	407	**716**	**408**	714	409	32	**515**	**566**	516	565	515	567
445.gobmk	32	910	369	907	370	**909**	**369**	32	763	440	766	438	**765**	**439**
456.hmmer	32	921	324	**924**	**323**	932	320	32	601	497	**600**	**498**	599	498
458.sjeng	32	1164	333	**1166**	**332**	1168	331	32	1023	378	**1025**	**378**	1026	377
462.libquantum	32	245	2710	**245**	**2710**	245	2700	32	**227**	**2920**	227	2920	227	2920
464.h264ref	32	1140	621	1145	619	**1141**	**620**	32	1086	652	1087	652	**1086**	**652**
471.omnetpp	32	949	211	948	211	**948**	**211**	32	**873**	**229**	873	229	873	229
473.astar	32	923	243	922	244	**922**	**244**	32	**837**	**268**	837	268	837	268
483.xalancbmk	32	510	433	**510**	**433**	510	433	32	483	457	**483**	**457**	483	457

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 $ $Date:: 2013-11-20 #$ 748963af01bf08f8f30d41159527dd6d
running on 1S-1002-D0 Fri Feb 28 16:40:55 2014

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 3200 MHz)
   1 chips
   32 threads
   3200 MHz

From kstat:       16 cores

From prtconf: 129280 Megabytes

/etc/release:
     Oracle Solaris 11.1 SPARC
uname -a:
   SunOS 1S-1002-D0 5.11 11.1 sun4v sparc sun4v

disk: df -h  $SPEC
Filesystem             Size   Used  Available Capacity  Mounted on
rpool/export           547G    33G       438G     8%    /export

(End of data from sysinfo program)
```

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 -xtarget=sparc64x -fma=fused -xipo=2 -xpagesize=4M
-xalias_level=std -M map.bssalign

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Base Optimization Flags (Continued)

C++ benchmarks:
-fast -xtarget=sparc64x -fma=fused -xipo=2 -xpagesize=4M
-xalias_level=compatible -library=stlport4 -M map.bssalign -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:

400.perlbench: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64x
-fma=fused -xpagesize=4M -xipo=1 -xalias_level=std
-xrestrict -xprefetch=no%auto -xO4 -M map.256M.align
-lfast

401.bzip2: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64x
-fma=fused -xpagesize=4M -xalias_level=strong
-xprefetch=no%auto -W2,-Ainline:rs=1000 -W2,-Ainline:cs=500
-W2,-Ainline:inc=60 -M map.256M.align -lfast

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Peak Optimization Flags (Continued)

403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64x
-fma=fused -xpagesize=4M -xO4 -xipo=2 -xprefetch=no%auto
-M map.256M.align

429.mcf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64x
-fma=fused -xpagesize=4M -xipo=2 -xalias_level=std
-xprefetch_level=1 -xprefetch=latx:0.2 -W2,-Asac
-M map.256M.align

445.gobmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64x
-fma=fused -xpagesize=4M -xO4 -xalias_level=std
-xrestrict -xprefetch=no%auto -Wc,-Qiselect-funcalign=64
-M map.256M.align

456.hmmer: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64x
-fma=fused -xpagesize=4M -xipo=1 -xalias_level=std
-xunroll=6 -xprefetch=latx:3.0
-Wc,-Qpeep-Ex:minmax_use_cmov=2 -Wc,-Qms_pipe+ulmscc=1
-M map.256M.align

458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64x
-fma=fused -xpagesize=4M -xO4 -xipo=2 -xalias_level=std
-xprefetch=no%auto -Wc,-Qlu-en=1-t=4 -M map.256M.align

462.libquantum: -fast -xtarget=sparc64x -fma=fused -xpagesize=4M -xipo=2
-xalias_level=std -xunroll=8 -xprefetch=no%auto
-Wc,-Qlu-en=1-t=4 -M map.256M.align -lbsdmalloc

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64x
-fma=fused -xpagesize=4M -xalias_level=strong -xipo=1
-Wc,-Qiselect-funcalign=64 -M map.256M.align

C++ benchmarks:

471.omnetpp: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64x
-fma=fused -xpagesize=4M -xipo=1 -xalias_level=compatible
-xunroll=2 -xprefetch_level=3 -W2,-Asac -library=stlport4
-M map.256M.align -lfast

473.astar: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64x
-fma=fused -xpagesize=4M -xalias_level=compatible
-xprefetch=no%auto -library=stlport4 -M map.256M.align
-lfast

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Peak Optimization Flags (Continued)

483.xalancbmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64x
-fma=fused -xpagesize=4M -xipo=2 -xalias_level=compatible
-xdepend -xprefetch_level=3 -xprefetch=latx:0.4
-library=stlport4 -Wc,-Qpeep-Ex:minmax_use_cmov=2
-Wc,-Qms_pipe+ulmscc=1 -W2,-Asac -M map.256M.align -lfast

Peak Other Flags

C benchmarks:
-xjobs=8

C++ benchmarks:
-xjobs=8

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio12.3-SPARC64X.20140423.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio12.3-SPARC64X.20140423.xml

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Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 23:19:41 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 22 April 2014.