



SPEC® CINT2006 Result

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Fujitsu Fujitsu SPARC M10-4S

SPECint®_rate2006 = 2090

SPECint_rate_base2006 = 1780

CPU2006 license: 19

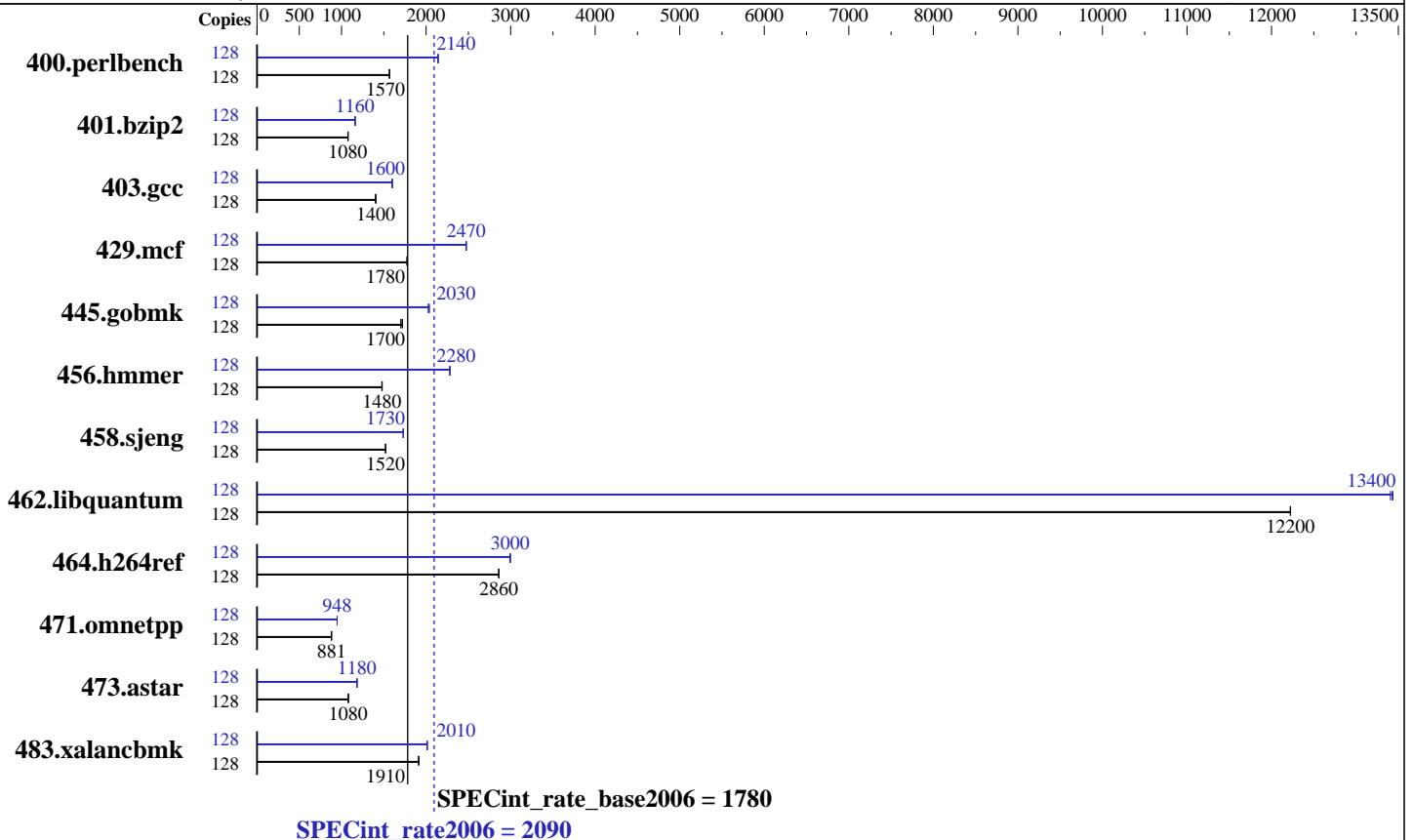
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Mar-2014

Hardware Availability: Apr-2014

Software Availability: Feb-2014



Hardware

CPU Name: SPARC64 X+

CPU Characteristics: 3700

CPU MHz: Integrated

FPU: Integrated

CPU(s) enabled: 64 cores, 4 chips, 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 4, 8, 12, 16 cores

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 11.1 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)

System State: zfs

Base Pointers: Default

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	128	798	1570	799	1570	798	1570	128	583	2140	585	2140	583	2140		
401.bzip2	128	1147	1080	1146	1080	1149	1080	128	1064	1160	1063	1160	1065	1160		
403.gcc	128	734	1400	734	1400	734	1400	128	645	1600	646	1600	643	1600		
429.mcf	128	658	1770	657	1780	657	1780	128	472	2470	471	2480	472	2470		
445.gobmk	128	780	1720	789	1700	789	1700	128	658	2040	662	2030	663	2030		
456.hammer	128	807	1480	809	1480	806	1480	128	524	2280	524	2280	523	2280		
458.sjeng	128	1018	1520	1018	1520	1019	1520	128	896	1730	896	1730	894	1730		
462.libquantum	128	217	12200	217	12200	217	12200	128	198	13400	197	13400	198	13400		
464.h264ref	128	990	2860	990	2860	991	2860	128	946	3000	945	3000	947	2990		
471.omnetpp	128	908	881	908	881	908	881	128	844	948	844	948	844	948		
473.astar	128	832	1080	832	1080	832	1080	128	760	1180	760	1180	759	1180		
483.xalancbmk	128	462	1910	462	1910	462	1910	128	439	2010	439	2010	439	2010		

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 #\$ 654bd3fcf53b06faef0efe54ed011998

running on spec-bb02 Sun Mar 2 17:44:46 2014

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

Continued on next page

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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
128 threads
3700 MHz
```

From kstat: 64 cores

From prtconf: 522240 Megabytes

```
/etc/release:
Oracle Solaris 11.1 SPARC
uname -a:
SunOS spec-bb02 5.11 11.1 sun4v sparc sun4v
```

```
disk: df -h $SPEC
Filesystem      Size  Used  Available Capacity  Mounted on
rpool/export    547G   18G   450G         4%    /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

Continued on next page



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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

Continued on next page



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Peak Optimization Flags (Continued)

401.bzip2 (continued):
-W2,-Ainline:inc=60 -M map.256M.align -lfast

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.hmmr: -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

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Peak Optimization Flags (Continued)

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

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

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