



SPEC® CINT2006 Result

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Fujitsu Fujitsu SPARC M10-4S

SPECint®_rate2006 = 23800

SPECint_rate_base2006 = 20400

CPU2006 license: 19

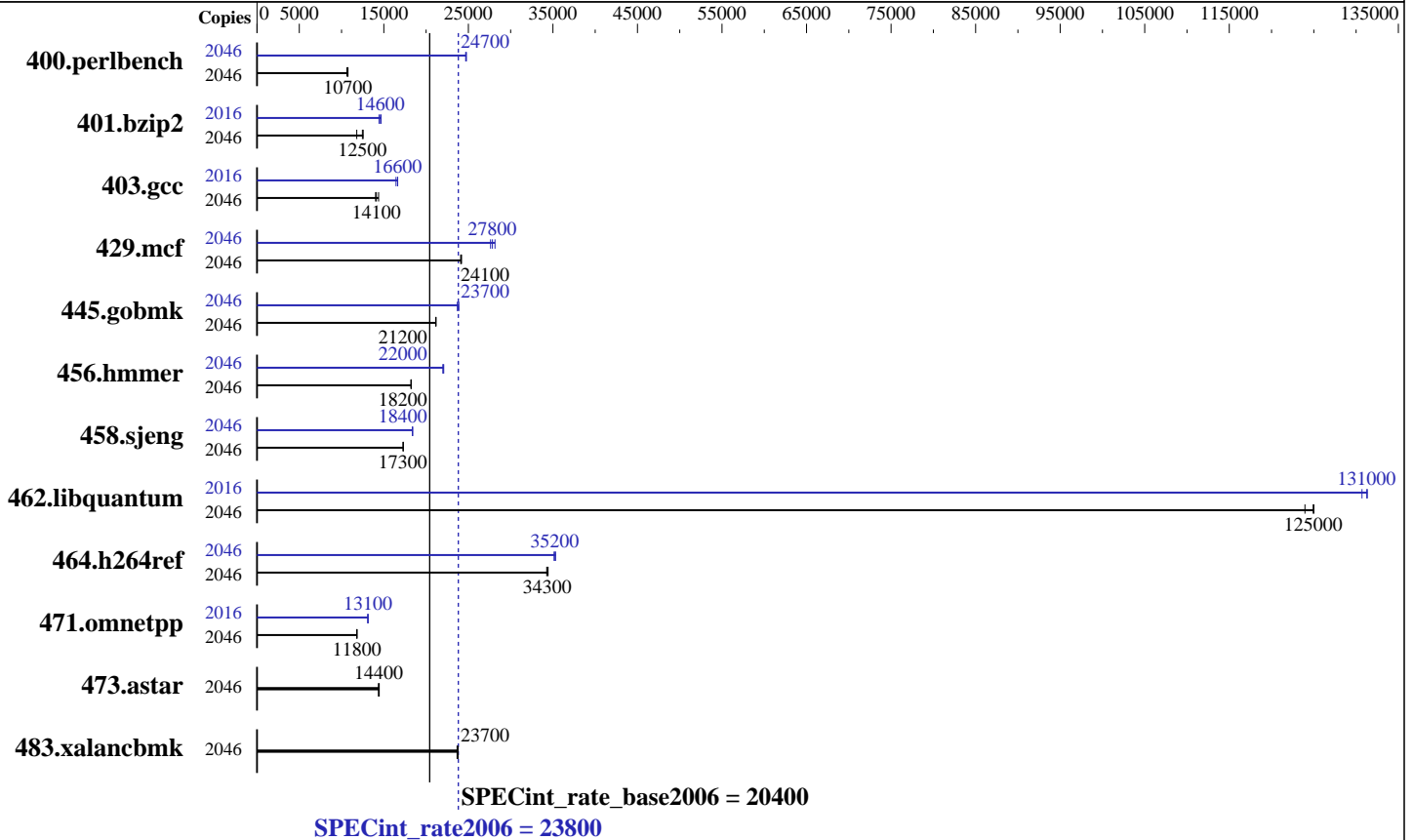
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jan-2013

Hardware Availability: Mar-2013

Software Availability: Mar-2013



Hardware

CPU Name: SPARC64 X
 CPU Characteristics:
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 1024 cores, 64 chips, 16 cores/chip, 2 threads/core
 CPU(s) orderable: 1 to 16 BBs; each BB contains 2 or 4 CPU chips
 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: 8320 GB (520 x 16 GB)
 chip#0: 256 GB (16 x 16 GB 2Rx4 PC3L-12800R-11, ECC, running at 1333 MHz and CL9)
 chip#1-#63: 8064 GB (504 x 16 GB 2Rx4 PC3L-12800R-11, ECC, running at 1600 MHz)
 Disk Subsystem: 1 x 600 GB SAS, 10025 RPM Toshiba MBF2600RC
 Other Hardware: None

Software

Operating System: Oracle Solaris 11.1
 Compiler: C/C++: Version 12.3 of Oracle Solaris Studio, 1/13 Platform Specific Enhancement
 Auto Parallel: No
 File System: zfs and 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	2046	1880	10600	1860	10700	1857	10800	2046	808	24700	807	24800	810	24700
401.bzip2	2046	1673	11800	1584	12500	1572	12600	2016	1333	14600	1326	14700	1348	14400
403.gcc	2046	1167	14100	1145	14400	1174	14000	2016	987	16400	976	16600	975	16600
429.mcf	2046	771	24200	773	24100	775	24100	2046	663	28100	670	27800	676	27600
445.gobmk	2046	1014	21200	1014	21200	1015	21100	2046	899	23900	905	23700	904	23700
456.hammer	2046	1046	18300	1046	18200	1049	18200	2046	867	22000	864	22100	868	22000
458.sjeng	2046	1433	17300	1432	17300	1431	17300	2046	1346	18400	1347	18400	1346	18400
462.libquantum	2046	339	125000	339	125000	342	124000	2016	318	131000	320	131000	318	131000
464.h264ref	2046	1315	34400	1318	34300	1321	34300	2046	1289	35100	1282	35300	1285	35200
471.omnetpp	2046	1082	11800	1082	11800	1083	11800	2016	960	13100	959	13100	962	13100
473.astar	2046	994	14500	998	14400	999	14400	2046	994	14500	998	14400	999	14400
483.xalancbmk	2046	593	23800	597	23700	596	23700	2046	593	23800	597	23700	596	23700

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 "webconsole" service was turned off using svcadm disable webconsole.

System Tunables:

(/etc/system parameters)

lpg_alloc_prefer=1

Indicates that extra effort should be taken to ensure that pages are created in the nearby lgroup (NUMA location).

Platform Notes

Sysinfo program /export/cpu2006-v1.2/config/sysinfo.rev6818
\$Rev: 6818 \$ \$Date:: 2012-07-17 \$# e86d102572650a6e4d596a3cee98f191
running on 4S-405-D0 Mon Jan 14 03:29:06 2013

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:

<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

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Platform Notes (Continued)

From /usr/sbin/psrinfo

- SPARC64-X (chipid 0, clock 3000 MHz)
- SPARC64-X (chipid 1, clock 3000 MHz)
- SPARC64-X (chipid 10, clock 3000 MHz)
- SPARC64-X (chipid 11, clock 3000 MHz)
- SPARC64-X (chipid 12, clock 3000 MHz)
- SPARC64-X (chipid 13, clock 3000 MHz)
- SPARC64-X (chipid 14, clock 3000 MHz)
- SPARC64-X (chipid 15, clock 3000 MHz)
- SPARC64-X (chipid 16, clock 3000 MHz)
- SPARC64-X (chipid 17, clock 3000 MHz)
- SPARC64-X (chipid 18, clock 3000 MHz)
- SPARC64-X (chipid 19, clock 3000 MHz)
- SPARC64-X (chipid 2, clock 3000 MHz)
- SPARC64-X (chipid 20, clock 3000 MHz)
- SPARC64-X (chipid 21, clock 3000 MHz)
- SPARC64-X (chipid 22, clock 3000 MHz)
- SPARC64-X (chipid 23, clock 3000 MHz)
- SPARC64-X (chipid 24, clock 3000 MHz)
- SPARC64-X (chipid 25, clock 3000 MHz)
- SPARC64-X (chipid 26, clock 3000 MHz)
- SPARC64-X (chipid 27, clock 3000 MHz)
- SPARC64-X (chipid 28, clock 3000 MHz)
- SPARC64-X (chipid 29, clock 3000 MHz)
- SPARC64-X (chipid 3, clock 3000 MHz)
- SPARC64-X (chipid 30, clock 3000 MHz)
- SPARC64-X (chipid 31, clock 3000 MHz)
- SPARC64-X (chipid 32, clock 3000 MHz)
- SPARC64-X (chipid 33, clock 3000 MHz)
- SPARC64-X (chipid 34, clock 3000 MHz)
- SPARC64-X (chipid 35, clock 3000 MHz)
- SPARC64-X (chipid 36, clock 3000 MHz)
- SPARC64-X (chipid 37, clock 3000 MHz)
- SPARC64-X (chipid 38, clock 3000 MHz)
- SPARC64-X (chipid 39, clock 3000 MHz)
- SPARC64-X (chipid 4, clock 3000 MHz)
- SPARC64-X (chipid 40, clock 3000 MHz)
- SPARC64-X (chipid 41, clock 3000 MHz)
- SPARC64-X (chipid 42, clock 3000 MHz)
- SPARC64-X (chipid 43, clock 3000 MHz)
- SPARC64-X (chipid 44, clock 3000 MHz)
- SPARC64-X (chipid 45, clock 3000 MHz)
- SPARC64-X (chipid 46, clock 3000 MHz)
- SPARC64-X (chipid 47, clock 3000 MHz)
- SPARC64-X (chipid 48, clock 3000 MHz)
- SPARC64-X (chipid 49, clock 3000 MHz)
- SPARC64-X (chipid 5, clock 3000 MHz)
- SPARC64-X (chipid 50, clock 3000 MHz)
- SPARC64-X (chipid 51, clock 3000 MHz)
- SPARC64-X (chipid 52, clock 3000 MHz)
- SPARC64-X (chipid 53, clock 3000 MHz)
- SPARC64-X (chipid 54, clock 3000 MHz)

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Platform Notes (Continued)

```

SPARC64-X (chipid 55, clock 3000 MHz)
SPARC64-X (chipid 56, clock 3000 MHz)
SPARC64-X (chipid 57, clock 3000 MHz)
SPARC64-X (chipid 58, clock 3000 MHz)
SPARC64-X (chipid 59, clock 3000 MHz)
SPARC64-X (chipid 6, clock 3000 MHz)
SPARC64-X (chipid 60, clock 3000 MHz)
SPARC64-X (chipid 61, clock 3000 MHz)
SPARC64-X (chipid 62, clock 3000 MHz)
SPARC64-X (chipid 63, clock 3000 MHz)
SPARC64-X (chipid 7, clock 3000 MHz)
SPARC64-X (chipid 8, clock 3000 MHz)
SPARC64-X (chipid 9, clock 3000 MHz)
64 chips
2048 threads
3000 MHz
From kstat:      1024 cores
From prtconf:  8498688 Megabytes
/etc/release:
    Oracle Solaris 11.1 SPARC
uname -a:
    SunOS 4S-405-D0 5.11 11.1 sun4v sparc sun4v
disk: df -h $SPEC
Filesystem      Size  Used  Available Capacity  Mounted on
rpool/export    547G  7.9G    460G      2%    /export
(End of data from sysinfo program)

```

General Notes

output_root was used to put run directories in /tmp/cpu2006 (tmpfs).

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

```



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Base Optimization Flags

C benchmarks:
-fast -xtarget=sparc64x -fma=fused -xipo=2 -xpagesize=4M
-xalias_level=std -M /usr/lib/ld/map.bssalign

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

Base Other Flags

C benchmarks:
-xjobs=16

C++ benchmarks:
-xjobs=16

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 -xtarget=sparc64vii -xipo=1
-xalias_level=std -xrestrict -xprefetch=no%auto -xO4
-lfast

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Peak Optimization Flags (Continued)

401.bzip2: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64x
-fma=fused -xpagesize=4M -xalias_level=strong
-xprefetch=latx:0.2 -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=sparc64x
-fma=fused -xpagesize=4M -xO4 -xipo=2 -xprefetch_level=2
-xprefetch=latx:0.2

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

445.gobmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64x
-fma=fused -xpagesize=4M -xalias_level=std -xrestrict
-xprefetch=latx:0.2

456.hmmer: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64x
-fma=fused -xpagesize=4M -xipo=1 -xalias_level=std

458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64x
-fma=fused -xpagesize=4M -xipo=2 -xalias_level=std
-xprefetch=no%auto

462.libquantum: -fast -xtarget=sparc64x -fma=fused -xpagesize=4M -xipo=2
-xalias_level=std -xprefetch_level=2 -xprefetch=latx:0.2
-M /usr/lib/ld/map.bssalign

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64x
-fma=fused -xpagesize=4M -xtarget=sparc64vii -xipo=1
-xalias_level=any -xprefetch=no%auto

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 -xchip=generic -library=stlport4 -lfast

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes



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Peak Other Flags

C benchmarks:
-xjobs=16

C++ benchmarks:
-xjobs=16

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.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.xml>

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