SPEC® CINT2006 Result

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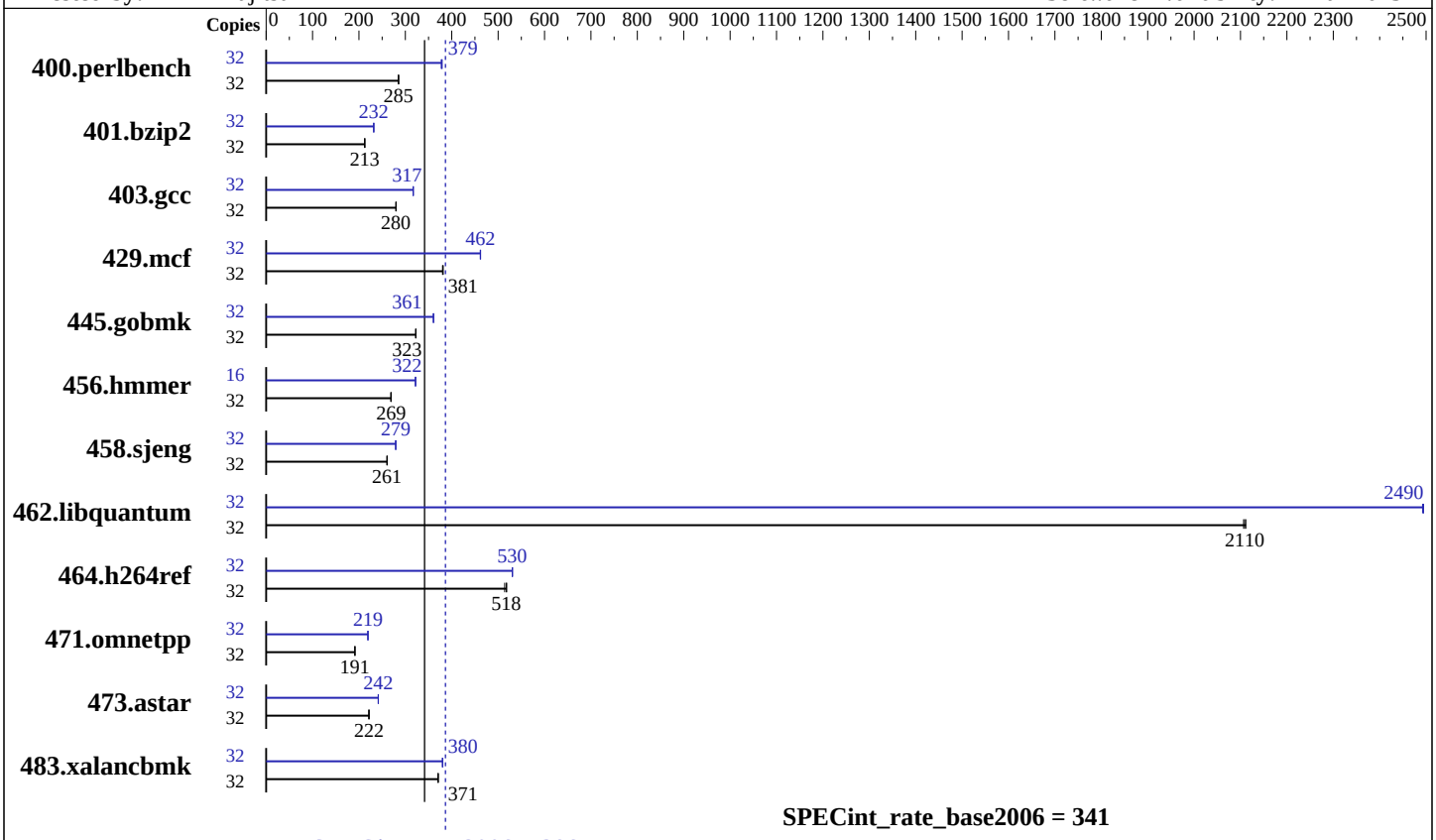
Fujitsu
Fujitsu SPARC M10-1

SPECint®_rate2006 = 386

SPECint_rate_base2006 = 341

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

Test date: Apr-2013
Hardware Availability: Mar-2013
Software Availability: Mar-2013



Hardware

CPU Name:	SPARC64 X
CPU Characteristics:	
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	16 cores, 1 chip, 16 cores/chip, 2 threads/core
CPU(s) orderable:	1 chip
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, running at 1600 MHz)
Disk Subsystem:	1 x 600 GB SAS, 10025 RPM Toshiba MBF2600RC
Other Hardware:	None

Software

Operating System:	Solaris 11.1.6.4.0
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	32	**1097**	**285**	1094	286	1097	285	32	**826**	**379**	829	377	824	379
401.bzip2	32	1452	213	**1453**	**213**	1455	212	32	1331	232	**1331**	**232**	1333	232
403.gcc	32	919	280	**921**	**280**	921	280	32	812	317	**813**	**317**	813	317
429.mcf	32	**766**	**381**	768	380	765	381	32	631	462	632	462	**632**	**462**
445.gobmk	32	**1041**	**323**	1041	323	1041	323	32	930	361	931	361	**931**	**361**
456.hmmer	32	1108	270	1112	269	**1109**	**269**	16	463	322	**464**	**322**	464	322
458.sjeng	32	1485	261	1487	260	**1486**	**261**	32	1386	279	1387	279	**1386**	**279**
462.libquantum	32	314	2110	**314**	**2110**	315	2110	32	266	2490	266	2490	**266**	**2490**
464.h264ref	32	**1368**	**518**	1377	514	1366	518	32	1335	530	1333	531	**1335**	**530**
471.omnetpp	32	1044	192	**1045**	**191**	1047	191	32	911	219	**911**	**219**	912	219
473.astar	32	1016	221	1012	222	**1014**	**222**	32	930	242	929	242	**930**	**242**
483.xalancbmk	32	595	371	**596**	**371**	597	370	32	580	381	**581**	**380**	581	380

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.
```

Platform Notes

```
Sysinfo program /export/cpu2006-v1.2/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on 1S-027-D0 Mon Apr 22 20:21:23 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

From /usr/sbin/psrinfo
   SPARC64-X (chipid 0, clock 2800 MHz)
   1 chips
```

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Platform Notes (Continued)

```
      32 threads
      2800 MHz

   From kstat:       16 cores

   From prtconf: 129280 Megabytes

   /etc/release:
        Oracle Solaris 11.1 SPARC
   uname -a:
      SunOS 1S-027-D0 5.11 11.1 sun4v sparc sun4v

   disk: df -h  $SPEC
   Filesystem             Size   Used  Available Capacity  Mounted on
   rpool/export           547G   5.8G       468G     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

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
```

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Base Optimization Flags (Continued)

C++ benchmarks (continued):
-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

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

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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_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
-xprefetch_auto_type=indirect_array_access

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
-xcache=32/128/4/1:704/128/22/1

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 -Wc,-Qlu-en=1-t=4

462.libquantum: -fast -xtarget=T5 -xpagesize=256M -xarch=sparcvis2
-xcache=32/128/4/1:704/128/22/1 -xipo=2 -xalias_level=std
-xprefetch_level=2 -Wc,-Qlu-en=1-t=4
-Wc,-Qiselect-funcalign=64
-M /export/cpu2006-v1.2/mapfiles/map.256M.align -lbsdmalloc
-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
-xcache=32/128/4/1:704/128/22/1

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 -xprefetch_level=3
-library=stlport4 -lfast

473.astar: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=sparc64x
-fma=fused -xpagesize=4M -xipo=0 -xalias_level=compatible
-xunroll=6 -xprefetch=latx:0.8

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Peak Optimization Flags (Continued)

473.astar (continued):
-xprefetch_auto_type=indirect_array_access -library=stlport4
-lfast

483.xalancbmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xtarget=T5
-xpagesize=256M -xarch=sparcvis2
-xcache=32/128/4/1:704/128/22/1 -xalias_level=compatible
-xdepend -xipo=2 -library=stlport4
-M /export/cpu2006-v1.2/mapfiles/map.256M.align -lfast

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.20130522.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.20130522.xml

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