



SPEC[®] CINT2006 Result

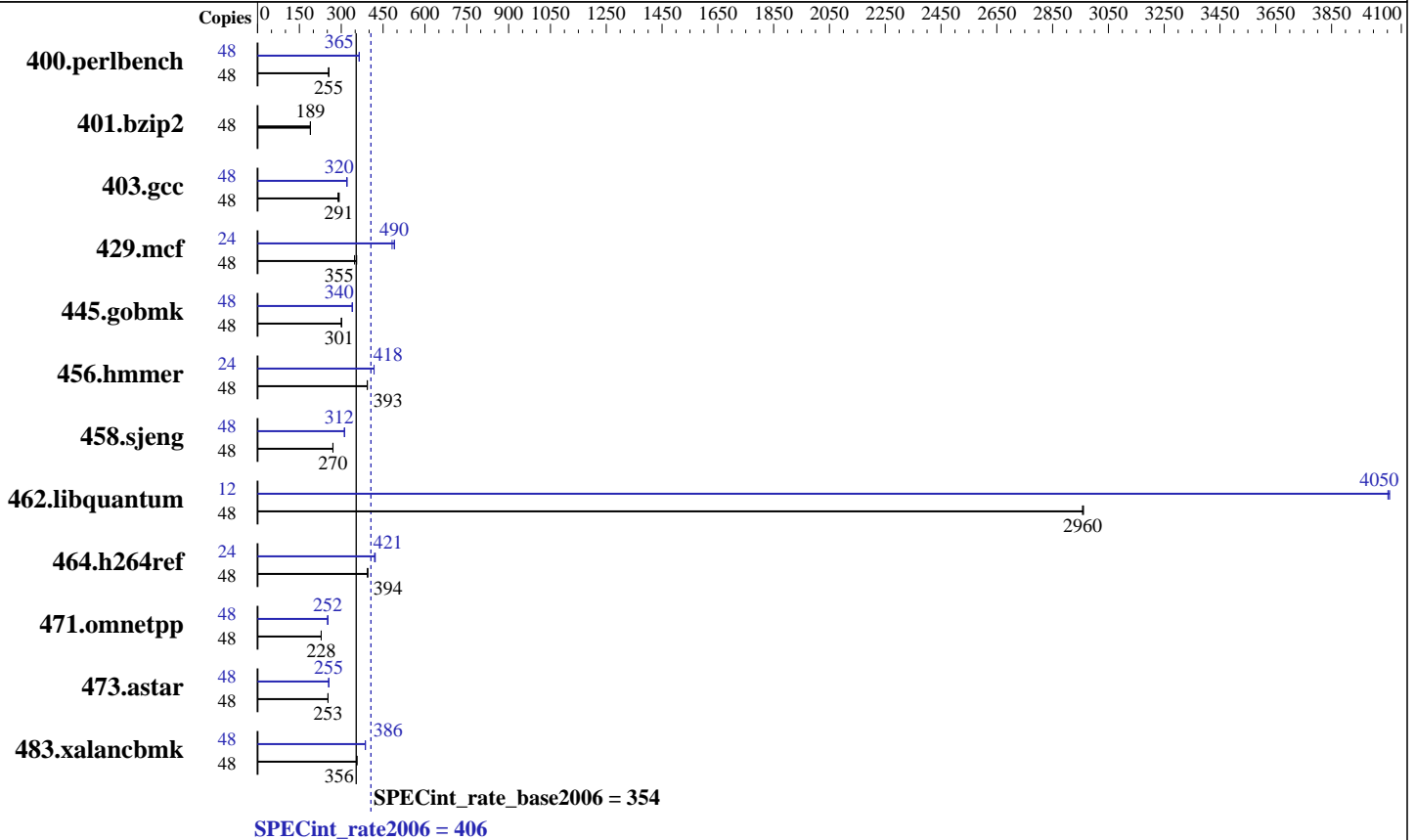
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Fujitsu
Fujitsu SPARC M12-1

SPECint[®]_rate2006 = 406
SPECint_rate_base2006 = 354

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

Test date: Jun-2017
Hardware Availability: Jul-2017
Software Availability: Jul-2017



Hardware

CPU Name: SPARC64 XII
 CPU Characteristics:
 CPU MHz: 3200
 FPU: Integrated
 CPU(s) enabled: 6 cores, 1 chip, 6 cores/chip, 8 threads/core
 CPU(s) orderable: the number of orderable total cores is 1, 2, 3, .. 6
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 512 KB I+D on chip per core
 L3 Cache: 16 MB I+D on chip per chip
 Other Cache: None
 Memory: 512 GB (16 x 32 GB 2Rx4 PC4-2400T-R)
 Disk Subsystem: 1 x 600 GB 10K RPM SAS (for system disk)
 Other Hardware: None

Software

Operating System: Solaris 11.3 SRU 20.6
 Compiler: C/C++: Version 12.6 of Oracle Developer 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	48	1842	255	1835	256	1836	255	48	1289	364	1285	365	1286	365
401.bzip2	48	2446	189	2446	189	2444	189	48	2446	189	2446	189	2444	189
403.gcc	48	1320	293	1340	288	1328	291	48	1203	321	1210	319	1208	320
429.mcf	48	1259	348	1234	355	1233	355	24	454	482	447	490	446	491
445.gobmk	48	1676	301	1673	301	1671	301	48	1479	340	1479	341	1487	339
456.hammer	48	1139	393	1139	393	1138	393	24	536	418	536	418	536	418
458.sjeng	48	2149	270	2152	270	2147	271	48	1861	312	1862	312	1867	311
462.libquantum	48	336	2960	336	2960	336	2960	12	61.3	4060	61.3	4050	61.4	4050
464.h264ref	48	2694	394	2688	395	2696	394	24	1259	422	1266	420	1263	421
471.omnetpp	48	1315	228	1315	228	1315	228	48	1191	252	1195	251	1191	252
473.astar	48	1334	253	1334	253	1334	253	48	1320	255	1320	255	1320	255
483.xalancbmk	48	930	356	931	356	931	356	48	857	386	857	387	857	386

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 = 86400

Causes pages older than the listed number of seconds to be written by fsflush.
doiflush = 0

Controls whether file system metadata syncs will be executed during fsflush invocations.
dopageflush = 0

Controls whether memory is examined for modified pages during fsflush invocations.
zfs:zfs_arc_max=1073741824

Determines the maximum size of the ZFS Adaptive Replacement Cache (ARC).



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Platform Notes

Sysinfo program /export/cpu2006/config/sysinfo
Revision 6993 of 2015-11-06 (975e92c7086bc383773e22882bdda8dd)
running on H1S-201-D0 Thu Jun 22 06:14:37 2017

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-XII (chipid 0, clock 3200 MHz)
  1 chips
  48 threads
  3200 MHz
```

```
From kstat:          6 cores
```

```
From prtconf: 521728 Megabytes
```

```
/etc/release:
  Oracle Solaris 11.3 SPARC
uname -a:
  SunOS H1S-201-D0 5.11 11.3 sun4v sparcsun4v
```

```
SPEC is set to: /export/cpu2006
```

```
disk: df -h /export/cpu2006
Filesystem      Size  Used  Available Capacity  Mounted on
rpool/export    547G  6.7G   465G         2%    /export
```

(End of data from sysinfo program)

General Notes

File System:
tmpfs: output_root was used to put run directories in /tmp/cpu2006
zfs: operating system

SPEC CPU2006 benchmark:
Updated with runspec --update

Base Compiler Invocation

C benchmarks:
cc

C++ benchmarks:
CC



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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:
-std=c99 -m32 -fast -xtarget=sparc64xii -xipo=2 -xpagesize=4M
-xsegment_align=4M -xthroughput -xalias_level=std

C++ benchmarks:
-m32 -fast -xtarget=sparc64xii -xipo=2 -xpagesize=4M
-xsegment_align=4M -xthroughput -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



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Peak Optimization Flags

C benchmarks:

```

400.perlbench: -std=c99 -xprofile=collect:./feedback(pass 1)
               -xprofile=use:./feedback(pass 2) -m32 -fast
               -xtarget=sparc64xii -xpagesize=256M -xsegment_align=256M
               -xthroughput -xtarget=sparc64xplus -xipo=1
               -xalias_level=std -xrestrict -xprefetch=no%auto -xO4
               -Wc,-Qiselect-funcalign=4 -xthroughput=no -lfast

401.bzip2: basepeak = yes

403.gcc: -std=c99 -xprofile=collect:./feedback(pass 1)
          -xprofile=use:./feedback(pass 2) -m32 -fast
          -xtarget=sparc64xii -xpagesize=256M -xsegment_align=256M
          -xthroughput -xO4 -xipo=2 -xprefetch=no%auto
          -Wc,-Qiselect-funcalign=64
          -xcache=32/128/4/4:256/128/8/4:8192/128/16/24
          -xalias_level=layout

429.mcf: -std=c99 -xprofile=collect:./feedback(pass 1)
          -xprofile=use:./feedback(pass 2) -m32 -fast
          -xtarget=sparc64xii -xpagesize=256M -xsegment_align=256M
          -xthroughput -xipo=2 -xalias_level=std -xprefetch=latx:0.2
          -W2,-Asac -Wc,-Qiselect-funcalign=64

445.gobmk: -std=c99 -xprofile=collect:./feedback(pass 1)
            -xprofile=use:./feedback(pass 2) -m32 -fast
            -xtarget=sparc64xii -xpagesize=256M -xsegment_align=256M
            -xthroughput -xO4 -xalias_level=std -xrestrict
            -xprefetch=no%auto -Wc,-Qiselect-funcalign=64
            -Wc,-Qgsched-T=4

456.hmmer: -std=c99 -xprofile=collect:./feedback(pass 1)
            -xprofile=use:./feedback(pass 2) -m32 -fast
            -xtarget=sparc64xii -xpagesize=256M -xsegment_align=256M
            -xthroughput -xipo=1 -xunroll=8 -Wc,-Qms_pipe-pref
            -Wc,-Qiselect-funcalign=4
            -xcache=32/128/4/4:256/128/8/4:8192/128/16/48

458.sjeng: -std=c99 -xprofile=collect:./feedback(pass 1)
            -xprofile=use:./feedback(pass 2) -m32 -fast
            -xtarget=sparc64xii -xpagesize=256M -xsegment_align=256M
            -xthroughput -xO4 -xipo=2 -xalias_level=std -xunroll=4
            -Wc,-Qiselect-funcalign=4 -W2,-Afully_unroll:always=on
            -xprefetch=latx:0.6 -xcheck=%none

462.libquantum: -std=c99 -m32 -fast -xtarget=sparc64xii -xpagesize=256M
                 -xsegment_align=256M -xthroughput -m64
                 -xtarget=sparc64xplus -xipo=2
                 -xcache=32/128/4/4:256/128/8/4:8192/128/16/24
                 -xinline_param=level:1 -Wc,-Qiselect-funcalign=4

```

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Peak Optimization Flags (Continued)

462.libquantum (continued):

-xalias_level=layout -xprefetch=latx:0.2

464.h264ref: -std=c99 -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -m32 -fast
-xtarget=sparc64xii -xpagesize=256M -xsegment_align=256M
-xthroughput -xtarget=sparc64xplus -xipo=1
-Wc,-Qiselect-funcalign=4 -xthroughput=no
-xalias_level=layout -xprefetch=latx:0.2 -xcheck=%none

C++ benchmarks:

471.omnetpp: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -m32 -fast
-xtarget=sparc64xii -xpagesize=256M -xsegment_align=256M
-xthroughput -xipo=1 -xalias_level=compatible -xunroll=2
-xprefetch_level=3 -W2,-Asac -xthroughput=no -lfast

473.astar: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -m32 -fast
-xtarget=sparc64xii -xpagesize=256M -xsegment_align=256M
-xthroughput -xtarget=sparc64xplus -xalias_level=compatible
-xipo=2 -xunroll=6 -xrestrict=%source
-Wc,-Qiselect-funcalign=64 -Wc,-Qgsched-T=4
-xprefetch=latx:0.3 -lfast

483.xalancbmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -m32 -fast
-xtarget=sparc64xii -xpagesize=256M -xsegment_align=256M
-xthroughput -xipo=2 -xalias_level=compatible -xdepend
-xprefetch_level=3 -xprefetch=latx:0.4 -library=stlport4
-W2,-Asac -Wc,-Qiselect-funcalign=64 -features=no%except
-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-Developer-Studio12.6.20170725.html>
<http://www.spec.org/cpu2006/flags/Fujitsu-M12-1.html>



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You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Oracle-Developer-Studio12.6.20170725.xml>

<http://www.spec.org/cpu2006/flags/Fujitsu-M12-1.xml>

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For other inquiries, please contact webmaster@spec.org.

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