



SPEC® CINT2006 Result

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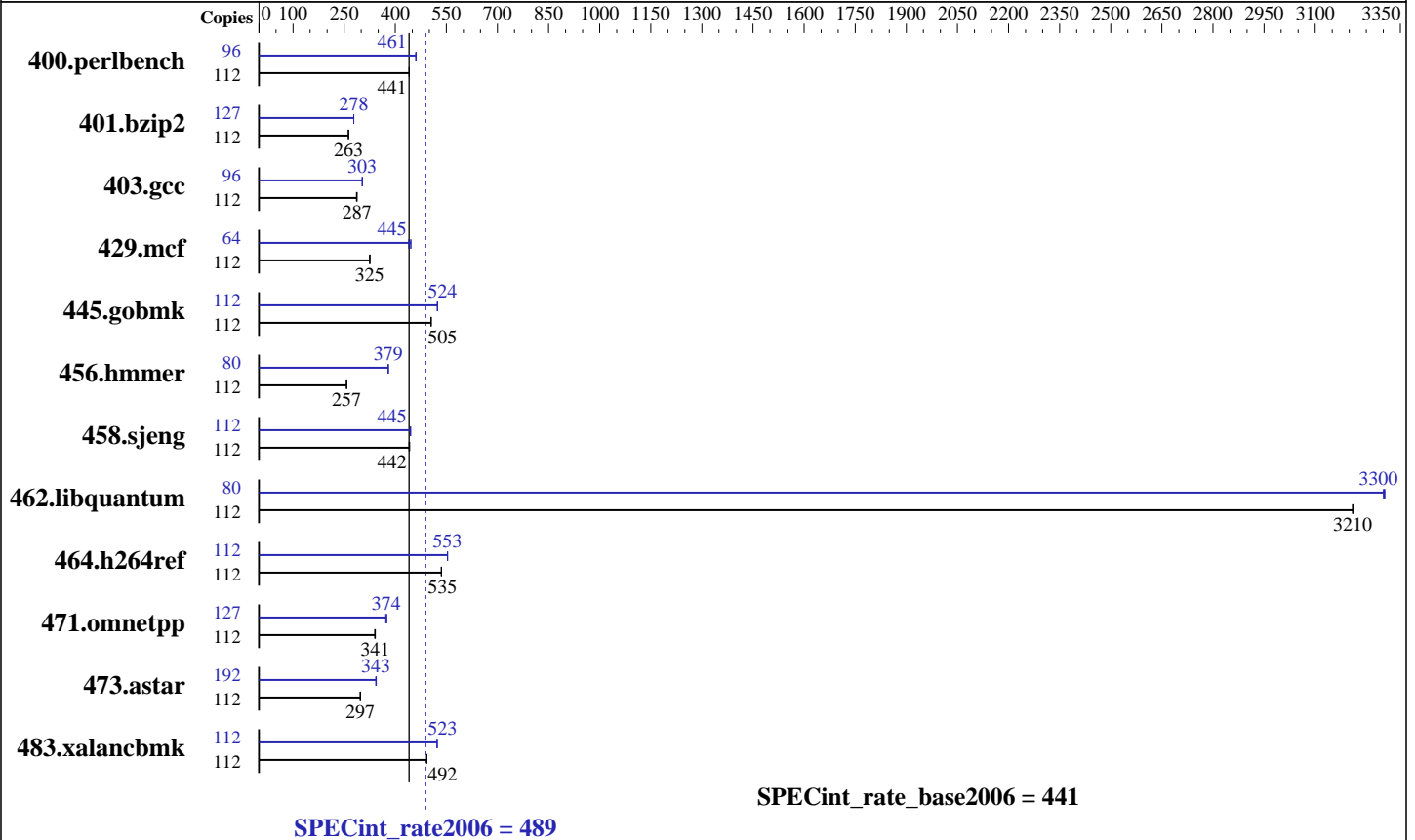
Oracle Corporation SPARC T5-1B

SPECint®_rate2006 = 489

SPECint_rate_base2006 = 441

CPU2006 license: 6
Test sponsor: Oracle Corporation
Tested by: Oracle Corporation

Test date: Sep-2013
Hardware Availability: Mar-2013
Software Availability: Nov-2013



Hardware

CPU Name: SPARC T5
 CPU Characteristics:
 CPU MHz: 3600
 FPU: Integrated
 CPU(s) enabled: 16 cores, 1 chip, 16 cores/chip, 8 threads/core
 CPU(s) orderable: 1 chip
 Primary Cache: 16 KB I + 16 KB D on chip per core
 Secondary Cache: 128 KB I+D on chip per core
 L3 Cache: 8 MB I+D on chip per chip
 Other Cache: None
 Memory: 256 GB (16 x 16 GB), 4-way interleaved
 Disk Subsystem: 166 GB on 2x 300 GB 10K RPM SAS disks (mirrored)
 Other Hardware: None

Software

Operating System: Oracle Solaris 11.1 with SRU 10.5
 Compiler: C/C++: Version 12.3 of Oracle Solaris Studio 10/13 Patch Set
 Auto Parallel: No
 File System: zfs with gzip compression
 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	112	2480	441	<u>2481</u>	<u>441</u>	2481	441	96	2038	460	2032	462	<u>2036</u>	<u>461</u>
401.bzip2	112	4115	263	<u>4115</u>	<u>263</u>	4114	263	127	4406	278	<u>4404</u>	<u>278</u>	4404	278
403.gcc	112	<u>3136</u>	<u>287</u>	3151	286	3135	288	96	2550	303	<u>2549</u>	<u>303</u>	2544	304
429.mcf	112	3142	325	3138	325	<u>3140</u>	<u>325</u>	64	1328	439	1309	446	<u>1311</u>	<u>445</u>
445.gobmk	112	<u>2326</u>	<u>505</u>	2324	506	2327	505	112	2242	524	<u>2243</u>	<u>524</u>	2243	524
456.hammer	112	4064	257	4068	257	<u>4064</u>	<u>257</u>	80	<u>1968</u>	<u>379</u>	1966	380	1968	379
458.sjeng	112	3075	441	<u>3067</u>	<u>442</u>	3066	442	112	3050	444	<u>3046</u>	<u>445</u>	3045	445
462.libquantum	112	<u>723</u>	<u>3210</u>	723	3210	723	3210	80	502	3300	502	3300	<u>502</u>	<u>3300</u>
464.h264ref	112	4629	535	<u>4629</u>	<u>535</u>	4628	536	112	<u>4480</u>	<u>553</u>	4477	554	4480	553
471.omnetpp	112	<u>2051</u>	<u>341</u>	2050	341	2061	340	127	2118	375	2133	372	<u>2122</u>	<u>374</u>
473.aster	112	<u>2643</u>	<u>297</u>	2642	298	2644	297	192	3927	343	<u>3926</u>	<u>343</u>	3914	344
483.xalancbmk	112	1568	493	1569	492	<u>1569</u>	<u>492</u>	112	<u>1478</u>	<u>523</u>	1479	523	1478	523

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

Processes were bound to cores using "submit" and "pbind". The config file option 'submit' was used in order to accomplish this.

Operating System Notes

ulimit -s 131072 was used to limit the space consumed by the stack

```
/etc/system parameters
autoup=600
```

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

```
tune_t_fsflushr=10
```

Controls how many seconds elapse between runs of the page flush daemon, fsflush.

```
tsb_rss_factor=128
```

Suggests that the the size of the TSB (Translation Storage Buffer) may be increased if it is more than 25% (128/512) full. Doing so may reduce TSB traps, at the cost of additional kernel memory.

```
zfs:zfs_arc_min = 1073741824
```

```
zfs:zfs_arc_max = 4294967296
```

Limits the consumption of memory by the zfs file system cache to the range 1 GB to 4 GB.

pkg update disabled with svcadm disable pkg/update

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Operating System Notes (Continued)

218 GB of swap was configured

Platform Notes

Sysinfo program /cpu2006/config/sysinfo.rev6818
\$Rev: 6818 \$ \$Date:: 2012-07-17 # \$ 5569a0425e2ad530534e4c79a46e4d28
running on bur408-179.us.oracle.com Mon Sep 9 18:49:39 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
  SPARC-T5 (chipid 0, clock 3600 MHz)
  1 chips
  128 threads
  3600 MHz
```

From kstat: 16 cores

From prtconf: 261120 Megabytes

```
/etc/release:
  Oracle Solaris 11.1 SPARC
```

```
uname -a:
  SunOS bur408-179.us.oracle.com 5.11 11.1 sun4v sparcsun4v
```

```
disk: df -h $SPEC
Filesystem      Size  Used  Available Capacity  Mounted on
rpool/cpu2006  166G  4.1G   140G         3%    /cpu2006
```

(End of data from sysinfo program)

Base Compiler Invocation

C benchmarks:
cc

C++ benchmarks:
CC

(*) Indicates a compiler flag that was found in a non-compiler variable.

Base Portability Flags

400.perlbench: -DSPEC_CPU_SOLARIS_SPARC

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Base Portability Flags (Continued)

403.gcc: -DSPEC_CPU_SOLARIS
462.libquantum: -DSPEC_CPU_SOLARIS
483.xalancbmk: -DSPEC_CPU_SOLARIS

Base Optimization Flags

C benchmarks:

-g -fast -xipo=2 -xpagesize=256M -xprefetch=no%auto
-xalias_level=std -M map.64K.align -lfast

C++ benchmarks:

-g -fast -xipo=2 -xpagesize=256M -xprefetch=no%auto
-xalias_level=compatible -library=stlport4 -M map.256M.align -lfast

Base Other Flags

C benchmarks:

-xjobs=32 -V -#

C++ benchmarks:

-xjobs=32 -verbose=diags,version

Peak Compiler Invocation

C benchmarks (except as noted below):

cc

401.bzip2: cc

403.gcc: cc

464.h264ref: cc

C++ benchmarks (except as noted below):

CC

471.omnetpp: CC

(*) Indicates a compiler flag that was found in a non-compiler variable.



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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: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=256M
-M map.256M.align -xipo=2 -xalias_level=std -xrestrict
-xprefetch=no%auto -Wc,-Qiselect-funcalign=64 -lfast

401.bzip2: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=256M
-M map.4M.align -xalias_level=strong -xprefetch=no%auto

403.gcc: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-M map.4M.align -xalias_level=std -xprefetch_level=2

429.mcf: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=256M
-M map.256M.align -xipo=2 -xprefetch=no%auto
-Wc,-Qiselect-funcalign=64 -W2,-Asac

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

456.hmmcr: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=256M
-M map.256M.align -xipo=2 -Wc,-xthroughput
-W2,-xthroughput=yes -Wc,-Qpeep-Ex:minmax_use_cmov=2
-Wc,-Qms_pipe+ulmscc=1

458.sjeng: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=256M
-M map.256M.align -xipo=2 -xprefetch=no%auto
-Wc,-xthroughput -W2,-xthroughput=yes

462.libquantum: -g -fast -xpagesize=256M -M map.256M.align -xipo=2
-xalias_level=std -xprefetch_level=2 -Wc,-Qlu-en=1-t=4
-Wc,-Qiselect-funcalign=64 -fma=fused -lbsdmalloc

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Peak Optimization Flags (Continued)

464.h264ref: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=256M
-M map.64K.align -xprefetch=no%auto -xalias_level=strong
-xipo=2 -Wc,-Qiselect-funcalign=64

C++ benchmarks:

471.omnetpp: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=256M
-xalias_level=compatible -M map.256M.align -xipo=2
-library=stdcxx4 -Wc,-Qiselect-funcalign=64 -lfast

473.astar: -g -fast -xpagesize=256M -xalias_level=compatible
-M map.64K.align -xipo=2 -Wc,-xthroughput
-W2,-xthroughput=yes -library=stdcxx4
-Wc,-Qiselect-funcalign=64 -lfast

483.xalancbmk: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=256M
-xalias_level=compatible -M map.64K.align -fma=fused
-Wc,-Qiselect-funcalign=64 -xipo=2 -staticlib=all
-library=stlport4 -lfast

Peak Other Flags

C benchmarks:

-xjobs=32 -V -#

C++ benchmarks:

-xjobs=32 -verbose=diags,version

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio12.3-SPARC.20131009.html>

<http://www.spec.org/cpu2006/flags/Oracle-Tseries.html>

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

<http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio12.3-SPARC.20131009.xml>

<http://www.spec.org/cpu2006/flags/Oracle-Tseries.xml>



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