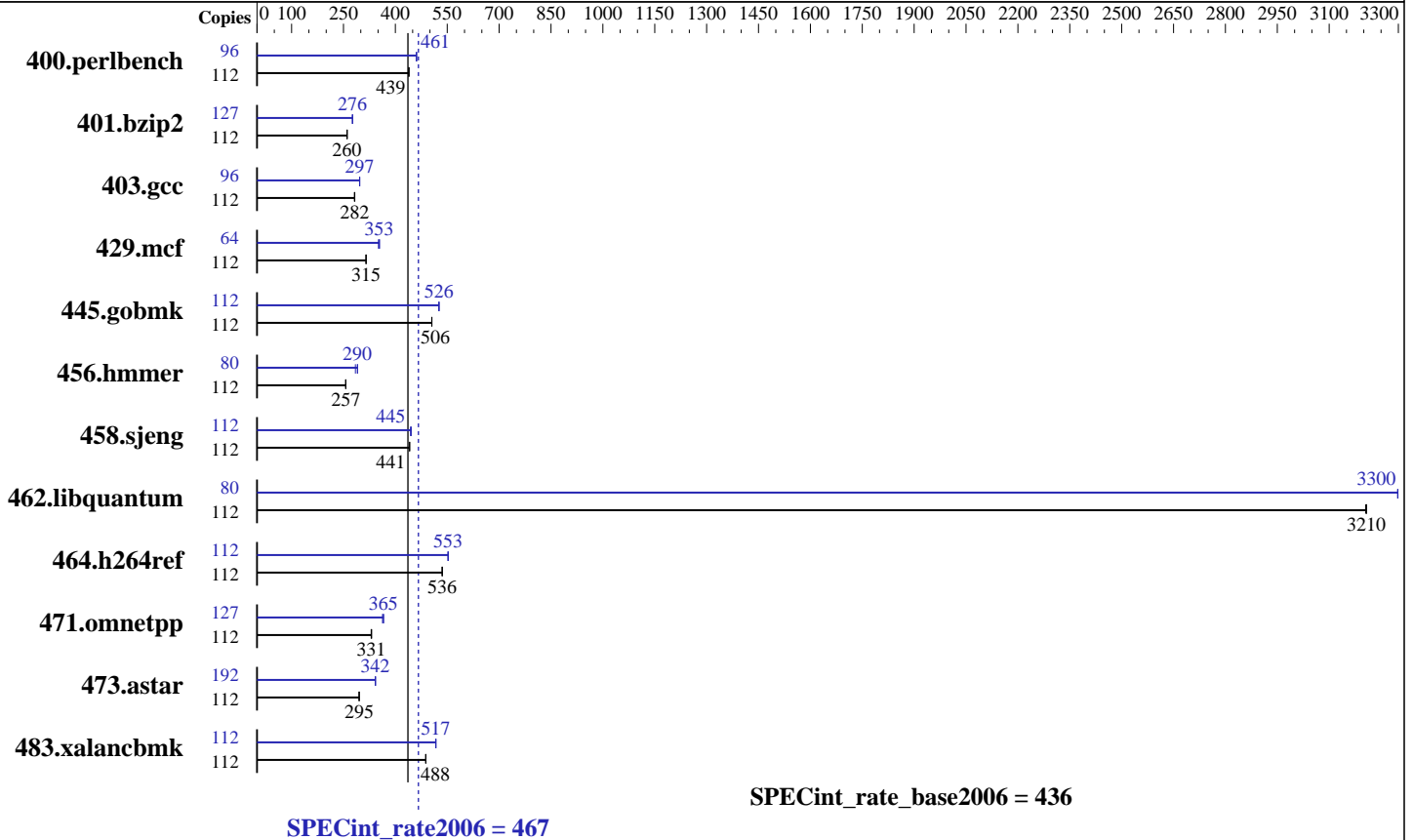# SPEC® CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation
SPARC T5-1B

$SPECint^®\_rate2006 =$ 467

$SPECint\_rate\_base2006 =$ 436

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

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

Copies	
400.perlbench	96: 461 / 112: 439
401.bzip2	127: 276 / 112: 260
403.gcc	96: 297 / 112: 282
429.mcf	64: 353 / 112: 315
445.gobmk	112: 526 / 112: 506
456.hmmer	80: 290 / 112: 257
458.sjeng	112: 445 / 112: 441
462.libquantum	80: 3300 / 112: 3210
464.h264ref	112: 553 / 112: 536
471.omnetpp	127: 365 / 112: 331
473.astar	192: 342 / 112: 295
483.xalancbmk	112: 517 / 112: 488

SPECint_rate_base2006 = 436

SPECint_rate2006 = 467

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:	157 GB on 2x 300 GB 10K RPM SAS disks (mirrored)
Other Hardware:	None

Software

Operating System:	Oracle Solaris 11.1, SRU 3.4
Compiler:	C/C++: Version 12.3 of Oracle Solaris Studio, 1/13 Platform Specific Enhancement
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	2493	439	**2493**	**439**	2490	439	96	2032	462	**2034**	**461**	2036	461
401.bzip2	112	**4151**	**260**	4147	261	4152	260	127	4439	276	**4439**	**276**	4438	276
403.gcc	112	3189	283	**3194**	**282**	3201	282	96	2601	297	2607	296	**2605**	**297**
429.mcf	112	3238	315	3240	315	**3239**	**315**	64	1647	354	1662	351	**1652**	**353**
445.gobmk	112	**2324**	**506**	2324	506	2326	505	112	**2234**	**526**	2234	526	2232	526
456.hmmer	112	4074	256	**4072**	**257**	4069	257	80	2624	284	**2571**	**290**	2569	291
458.sjeng	112	**3073**	**441**	3071	441	3073	441	112	3052	444	**3047**	**445**	3039	446
462.libquantum	112	**723**	**3210**	724	3210	723	3210	80	503	3300	**503**	**3300**	502	3300
464.h264ref	112	4629	535	4628	536	**4628**	**536**	112	4488	552	4485	553	**4485**	**553**
471.omnetpp	112	2113	331	**2116**	**331**	2121	330	127	**2175**	**365**	2187	363	2168	366
473.astar	112	2661	296	2663	295	**2663**	**295**	192	3933	343	3941	342	**3939**	**342**
483.xalancbmk	112	1583	488	**1584**	**488**	1584	488	112	1496	517	1494	517	**1495**	**517**

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 = 3221225472
          Limits the consumption of memory by the zfs file system
          cache to the range 1 GB to 3 GB.

     pkg update disabled with svcadm disable pkg/update

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Platform Notes

```
Sysinfo program /cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ 5569a0425e2ad530534e4c79a46e4d28
running on bur408-181.us.oracle.com Fri Mar 15 16:18:06 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

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 bur408-181.us.oracle.com 5.11 11.1 sun4v sparc sun4v

disk: df -h  $SPEC
Filesystem             Size    Used   Available Capacity  Mounted on
rpool/cpu2006          166G    1.5G      156G      1%      /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
        403.gcc: -DSPEC_CPU_SOLARIS
    462.libquantum: -DSPEC_CPU_SOLARIS
    483.xalancbmk: -DSPEC_CPU_SOLARIS

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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 -xdepend
-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:
```
CC
```

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

Peak Portability Flags

```
    400.perlbench: -DSPEC_CPU_SOLARIS_SPARC
         403.gcc: -DSPEC_CPU_SOLARIS
  462.libquantum: -DSPEC_CPU_SOLARIS
  483.xalancbmk: -DSPEC_CPU_SOLARIS
```

Oracle Corporation

SPARC T5-1B

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CPU2006 license: 6

Test sponsor: Oracle Corporation

Tested by: Oracle Corporation

Test date: Mar-2013

Hardware Availability: Mar-2013

Software Availability: Feb-2013

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=4M
              -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

   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

   456.hmmer: -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 -W2,-Rloop_dist
              -Wc,-Qpeep-Ex1:minmax_use_cmov=2

   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 -lbsdmalloc

  464.h264ref: -g -xprofile=collect:./feedback(pass 1)
               -xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
               -M map.64K.align -xipo=2 -xalias_level=std
```

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
                -xprefetch_level=2 -library=stdcxx4 -lfast
```

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SPARC T5-1B

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Peak Optimization Flags (Continued)

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

483.xalancbmk: -g -xprofile=collect:./feedback(pass 1)
               -xprofile=use:./feedback(pass 2) -fast -xpagesize=256M
               -xalias_level=compatible -xdepend -M map.256M.align
               -xipo=2 -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.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.xml
http://www.spec.org/cpu2006/flags/Oracle-Tseries.xml

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

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