SPEC® CINT2006 Result

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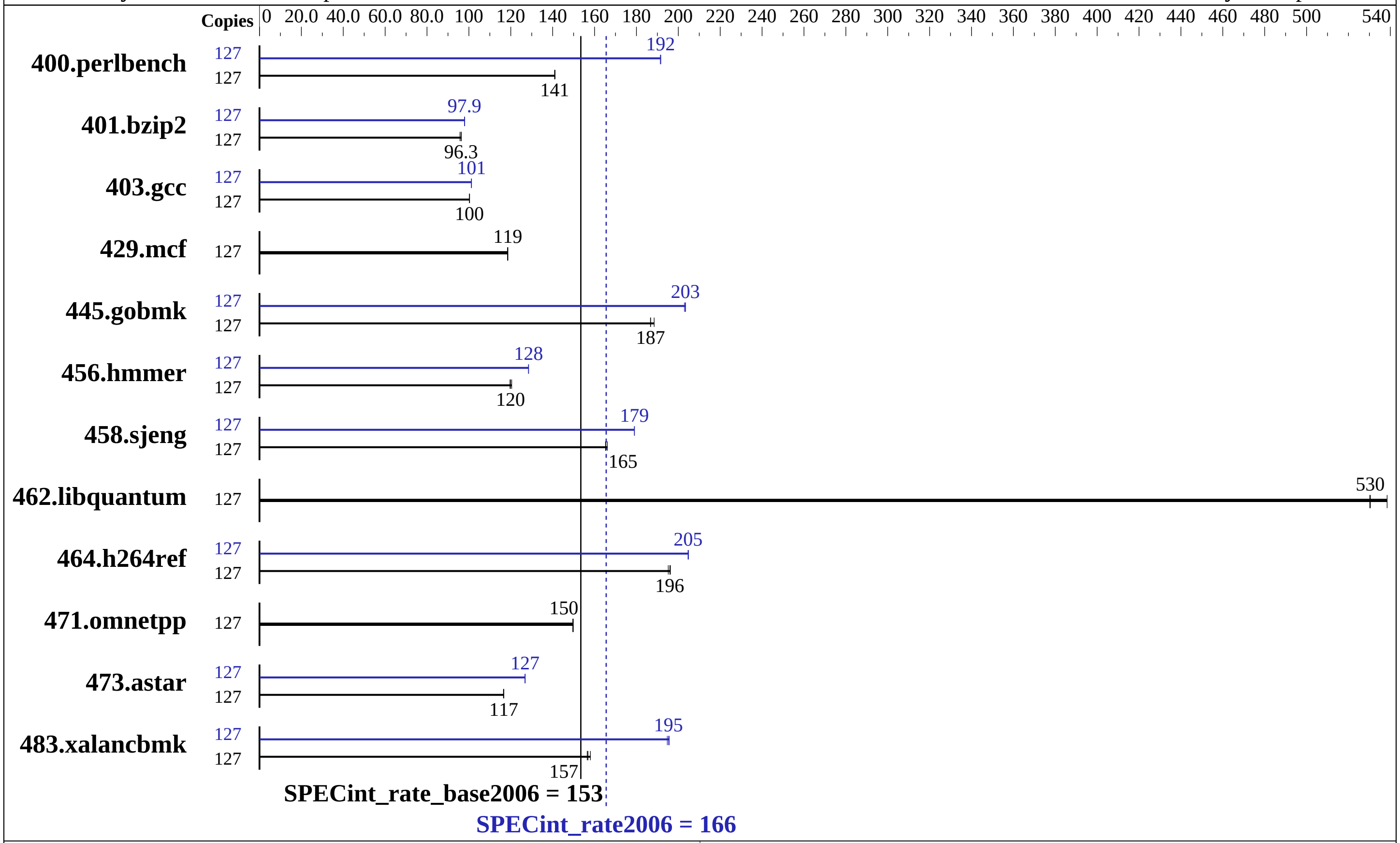
Oracle Corporation
SPARC T3-1

SPECint®_rate2006 = 166

SPECint_rate_base2006 = 153

CPU2006 license: 6		**Test date:**	Aug-2010
Test sponsor:	Oracle Corporation	**Hardware Availability:**	Oct-2010
Tested by:	Oracle Corporation	**Software Availability:**	Sep-2010



Hardware

CPU Name:	SPARC T3
CPU Characteristics:	
CPU MHz:	1649
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 + 8 KB D on chip per core
Secondary Cache:	6 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	128 GB (16 x 8 GB)
Disk Subsystem:	750 GB (zfs 3 x 2-way mirrors on 6x SAS 300G 10000 RPM)
Other Hardware:	None

Software

Operating System:	Oracle Solaris 10 9/10
Compiler:	Oracle Solaris Studio 12.2
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	127	**8800**	**141**	8804	141	8791	141	127	**6479**	**192**	6481	191	6474	192
401.bzip2	127	**12724**	**96.3**	12720	96.3	12800	95.7	127	12504	98.0	12517	97.9	**12516**	**97.9**
403.gcc	127	**10192**	**100**	10198	100	10188	100	127	10105	101	**10097**	**101**	10096	101
429.mcf	127	9763	119	9781	118	**9768**	**119**	127	9763	119	9781	118	**9768**	**119**
445.gobmk	127	7069	188	7136	187	**7133**	**187**	127	6548	203	**6551**	**203**	6565	203
456.hmmer	127	9838	120	9904	120	**9884**	**120**	127	**9222**	**128**	9223	128	9219	129
458.sjeng	127	9251	166	**9291**	**165**	9298	165	127	8582	179	**8582**	**179**	8583	179
462.libquantum	127	4887	538	4963	530	**4961**	**530**	127	4887	538	4963	530	**4961**	**530**
464.h264ref	127	14323	196	**14342**	**196**	14398	195	127	13719	205	**13729**	**205**	13733	205
471.omnetpp	127	5297	150	5305	150	**5301**	**150**	127	5297	150	5305	150	**5301**	**150**
473.astar	127	7642	117	**7644**	**117**	7653	116	127	**7031**	**127**	7025	127	7032	127
483.xalancbmk	127	5546	158	**5586**	**157**	5599	156	127	4479	196	**4486**	**195**	4500	195

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 (and therefore make more
space available to the heap).

 /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.
    lpg_alloc_prefer=1
       Indicates that extra effort should be taken to ensure
       that pages are created in the nearby lgroup (NUMA location).
    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_max=0x10000000
    zfs:zfs_arc_min=0x10000000
```

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Operating System Notes (Continued)

```
        Limits the consumption of memory by the zfs file system
        cache to 256 MB.  (The arc_max sets the maximum cache
        size; arc_min sets the minimum.)
     zfs:zfs_prefetch_disable = 1
        Indicates that prefetching is not desired.  This setting
        may be desirable when the file system cache is small.
 USB devices were turned off with ILOM command
     set /SYS/MB/USB component_state=disabled
 The "webconsole" service was turned off using
     svcadm disable webconsole
 The system had 296 GB of swap space.
```

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:
```
-g -fast -fma=fused -xipo=2 -xprefetch=no%auto -xpagesize=4M
-xalias_level=std -M /usr/lib/ld/map.bssalign
```

C++ benchmarks:
```
-g0 -library=stlport4 -fast -fma=fused -xipo=2 -xprefetch=no%auto
-xpagesize=4M -xdepend -xalias_level=compatible
-M /usr/lib/ld/map.bssalign
```

Base Other Flags

C benchmarks:
```
-xjobs=32 -V -#
```

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Base Other Flags (Continued)

C++ benchmarks:
-xjobs=32 -verbose=diags,version

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: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=std -xipo=2 -Xc -xrestrict
-lfast

401.bzip2: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=strong

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

429.mcf: basepeak = yes

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

456.hmmer: -g -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused -xipo=2
-xpagesize=4M -xunroll=14 -xalias_level=std

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Peak Optimization Flags (Continued)

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

462.libquantum: basepeak = yes

464.h264ref: -g -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -fma=fused -xpagesize=4M -xipo=2 -xalias_level=std

C++ benchmarks:

471.omnetpp: basepeak = yes

473.astar: -g0 -library=stlport4 -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -fma=fused -xpagesize=4M -xdepend -xalias_level=compatible -xipo=2 -xprefetch=no%auto -lfast

483.xalancbmk: Same as 473.astar

Peak Other Flags

C benchmarks:
-xjobs=32 -V -#

C++ benchmarks:
-xjobs=32 -verbose=diags,version

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio12.2-SPARC.20110110.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Oracle-Solaris-Studio12.2-SPARC.20110110.xml

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Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 16:30:07 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 7 January 2011.