



SPEC[®] CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Oracle Corporation SPARC Enterprise M3000

SPECint[®]_rate2006 = 56.2

SPECint_rate_base2006 = 50.3

CPU2006 license: 6

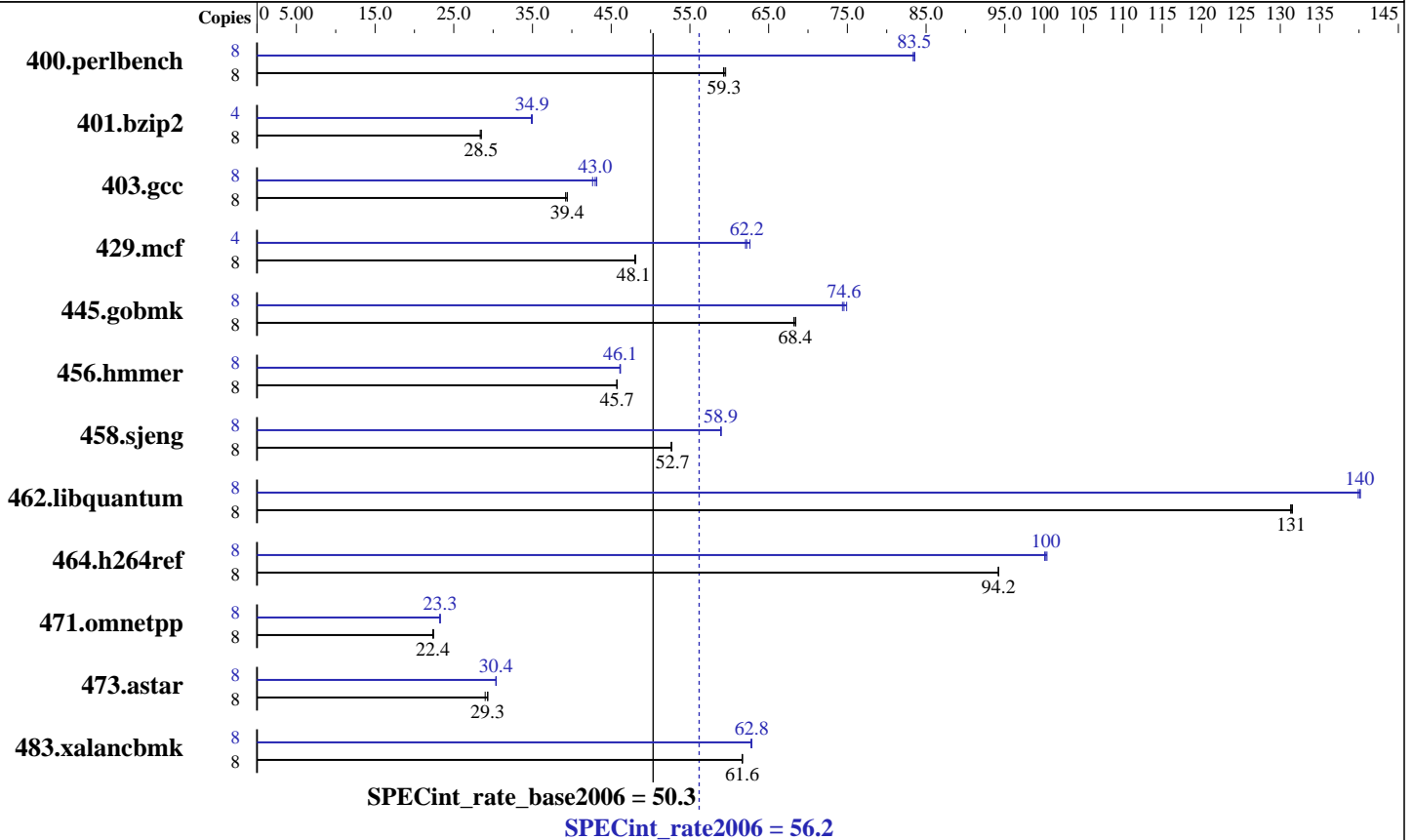
Test sponsor: Oracle Corporation

Tested by: Fujitsu

Test date: Feb-2011

Hardware Availability: Apr-2011

Software Availability: Sep-2010



Hardware

CPU Name: SPARC64 VII+
 CPU Characteristics:
 CPU MHz: 2860
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 chip
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 5632 KB I+D on chip per chip
 L3 Cache: None
 Other Cache: None
 Memory: 32 GB (8 x 4 GB, 2-way interleaved)
 Disk Subsystem: 1 x 300 GB 10,000 RPM SAS
 Other Hardware: None

Software

Operating System: Oracle Solaris 10 9/10
 Compiler: Oracle Solaris Studio 12.2
 Auto Parallel: No
 File System: ufs
 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	8	1313	59.5	1319	59.3	1317	59.3	8	935	83.6	938	83.4	936	83.5
401.bzip2	8	2723	28.4	2711	28.5	2710	28.5	4	1107	34.9	1105	34.9	1104	35.0
403.gcc	8	1634	39.4	1634	39.4	1643	39.2	8	1499	43.0	1511	42.6	1492	43.2
429.mcf	8	1517	48.1	1517	48.1	1520	48.0	4	588	62.1	582	62.6	586	62.2
445.gobmk	8	1230	68.2	1227	68.4	1226	68.4	8	1120	74.9	1125	74.6	1128	74.4
456.hammer	8	1632	45.7	1633	45.7	1632	45.7	8	1617	46.1	1617	46.2	1619	46.1
458.sjeng	8	1837	52.7	1840	52.6	1838	52.7	8	1641	59.0	1642	58.9	1643	58.9
462.libquantum	8	1261	131	1262	131	1260	132	8	1183	140	1185	140	1183	140
464.h264ref	8	1879	94.2	1880	94.2	1879	94.2	8	1767	100	1764	100	1769	100
471.omnetpp	8	2230	22.4	2235	22.4	2238	22.3	8	2153	23.2	2149	23.3	2148	23.3
473.astar	8	1915	29.3	1917	29.3	1937	29.0	8	1851	30.3	1848	30.4	1849	30.4
483.xalancbmk	8	895	61.7	896	61.6	895	61.6	8	878	62.8	878	62.9	879	62.8

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

Compiler Invocation Notes

Oracle Solaris Studio 12.2 is distributed with mandatory OS patches
118683-05 119963-20 120753-08
Oracle Solaris Studio 12.2 and patches are available at
<http://oracle.com/goto/solarisstudio>

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

ulimit -s 131072 was used to limit the space consumed by the stack (and therefore make more space available to the heap).

System Tunables:
(/etc/system parameters)

tune_t_fsflushr=10
Controls how many seconds elapse between runs of the page flush daemon, fsflush.

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Operating System Notes (Continued)

autoup=600
Causes pages older than the listed number of seconds to be written by fsflush.
bufhwm=3000
Memory byte limit for caching I/O buffers.
segmap_percent=1
Set maximum percent memory for file system cache.

Other System Settings:

The "webconsole" service was turned off using
svcadm disable webconsole

Platform Notes

Memory is 2-way interleaved by filling all slots with the same capacity DIMMs.

This result is measured on a SPARC Enterprise M3000 server from Fujitsu. The SPARC Enterprise M3000 server from Oracle and from Fujitsu are electrically equivalent.

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 -xO4 -fma=fused -xipo=2 -xpagesize=4M -xcache=generic
-xalias_level=std -xunroll=12 -xprefetch=latx:0.5 -l12amm

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Base Optimization Flags (Continued)

C++ benchmarks:

```
-library=stlport4 -M /usr/lib/ld/map.bssalign -fast -xO4 -fma=fused  
-xipo=2 -xpagesize=4M -xcache=generic -xdepend  
-xalias_level=compatible -xprefetch=latx:0.1 -lfast
```

Base Other Flags

C benchmarks:

```
-xjobs=2 -V -#
```

C++ benchmarks:

```
-xjobs=2 -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: -xprofile=tcov:./feedback(pass 1)  
-xprofile=use:./feedback(pass 2) -fast -fma=fused  
-xpagesize=4M -M /usr/lib/ld/map.bssalign -xipo=2 -xO4  
-xalias_level=std -xrestrict -Xc -xprefetch=no%auto  
-xunroll=6 -lfast -l12amm -lbsdmalloc  
  
401.bzip2: -xprofile=collect:./feedback(pass 1)  
-xprofile=use:./feedback(pass 2) -fast -fma=fused  
-xpagesize=4M -xalias_level=strong -xchip=generic  
-xprefetch=latx:1.5 -xunroll=4 -l12amm
```

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Peak Optimization Flags (Continued)

403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xalias_level=std -xO4
-xchip=generic -xprefetch_auto_type=indirect_array_access
-xprefetch_level=2 -xunroll=8 -l12amm

429.mcf: -fast -fma=fused -xpagesize=4M -xipo=2
-xprefetch_auto_type=indirect_array_access
-xprefetch=latx:0.1 -W2,-Apf:l1list=3 -W2,-Apf:notinl1list
-Wc,-Qlp-prt=1 -Wc,-Qlp-prwt=3 -xunroll=5 -l12amm

445.gobmk: -xprofile=tcov:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=std -xrestrict
-xprefetch_auto_type=indirect_array_access -xunroll=2
-l12amm

456.hmmer: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xalias_level=std -xprefetch_level=2
-xprefetch=latx:0.1 -xunroll=12

458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -M /usr/lib/ld/map.bssalign -xipo=2 -xO4
-xinline= -xprefetch=latx:0.1 -xunroll=8 -l12amm

462.libquantum: -fast -fma=fused -xpagesize=4M -xalias_level=std -xipo=2
-xchip=generic -xprefetch_level=3 -xunroll=6 -lbsdmalloc
-l12amm

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xalias_level=std -xlinkopt -l12amm

C++ benchmarks:

471.omnetpp: -library=stlport4 -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible
-M /usr/lib/ld/map.bssalign -xipo=1 -xO4
-Qoption cg -Qlp-av=0 -xprefetch=latx:1.2 -xunroll=5
-lfast

473.astar: -library=stlport4 -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible
-M /usr/lib/ld/map.bssalign -xipo=2 -xcache=generic
-xlinkopt -xprefetch=latx:0.1 -lfast

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Peak Optimization Flags (Continued)

```
483.xalancbmk: -library=stlport4 -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible -xipo=2 -xO4
-xcache=generic -xunroll=9 -lfast -lbsdmalloc
```

Peak Other Flags

C benchmarks:
-xjobs=2 -V -#

C++ benchmarks:
-xjobs=2 -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.20110413.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.20110413.xml>

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

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