



SPEC® CINT2006 Result

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Oracle Corporation SPARC Enterprise M3000

SPECint®_rate2006 = 37.2

SPECint_rate_base2006 = 33.7

CPU2006 license: 6

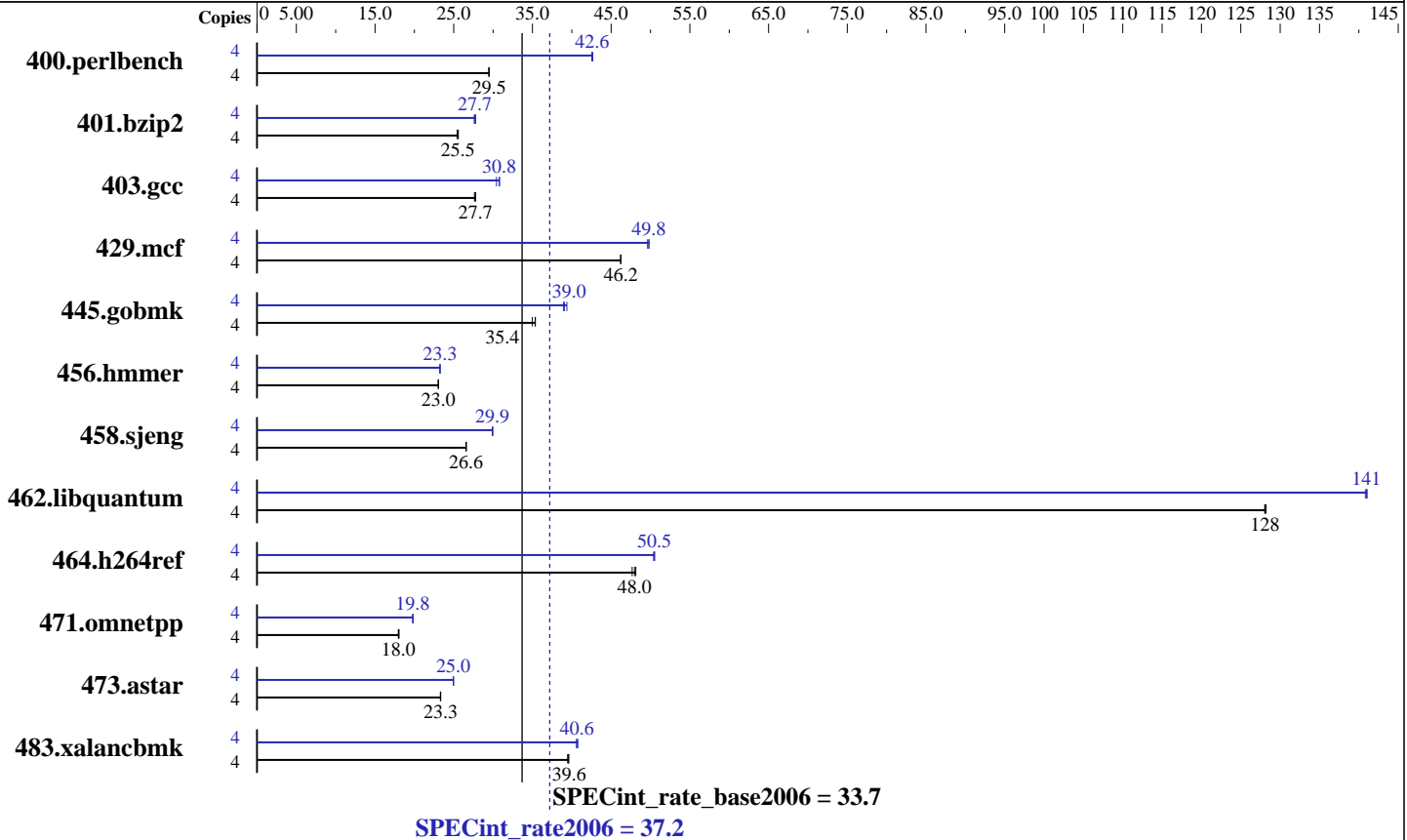
Test sponsor: Oracle Corporation

Tested by: Fujitsu

Test date: Jan-2011

Hardware Availability: Apr-2011

Software Availability: Sep-2010



Hardware

CPU Name: SPARC64 VII+
 CPU Characteristics:
 CPU MHz: 2860
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 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	4	1327	29.4	<u>1325</u>	<u>29.5</u>	1324	29.5	4	916	42.7	<u>918</u>	<u>42.6</u>	918	42.6
401.bzip2	4	<u>1513</u>	<u>25.5</u>	1518	25.4	1509	25.6	4	1389	27.8	1399	27.6	<u>1394</u>	<u>27.7</u>
403.gcc	4	1165	27.6	1159	27.8	<u>1160</u>	<u>27.7</u>	4	1058	30.4	1045	30.8	<u>1046</u>	<u>30.8</u>
429.mcf	4	789	46.2	789	46.2	<u>789</u>	<u>46.2</u>	4	732	49.8	<u>733</u>	<u>49.8</u>	735	49.6
445.gobmk	4	1187	35.4	1199	35.0	<u>1187</u>	<u>35.4</u>	4	<u>1075</u>	<u>39.0</u>	1066	39.4	1077	39.0
456.hammer	4	1620	23.0	<u>1619</u>	<u>23.0</u>	1619	23.1	4	1605	23.3	<u>1605</u>	<u>23.3</u>	1605	23.3
458.sjeng	4	1821	26.6	1822	26.6	<u>1822</u>	<u>26.6</u>	4	<u>1617</u>	<u>29.9</u>	1618	29.9	1616	30.0
462.libquantum	4	647	128	646	128	<u>647</u>	<u>128</u>	4	589	141	<u>588</u>	<u>141</u>	588	141
464.h264ref	4	1839	48.1	<u>1846</u>	<u>48.0</u>	1857	47.7	4	<u>1754</u>	<u>50.5</u>	1752	50.5	1757	50.4
471.omnetpp	4	<u>1390</u>	<u>18.0</u>	1385	18.1	1392	18.0	4	<u>1262</u>	<u>19.8</u>	1262	19.8	1263	19.8
473.astar	4	1203	23.3	<u>1203</u>	<u>23.3</u>	1205	23.3	4	1126	24.9	<u>1125</u>	<u>25.0</u>	1124	25.0
483.xalancbmk	4	<u>697</u>	<u>39.6</u>	699	39.5	697	39.6	4	<u>679</u>	<u>40.6</u>	680	40.6	677	40.8

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 -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 -xdepend -xalias_level=compatible -xunroll=8  
-xprefetch=no%auto -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=collect:./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  
-lfast -ll2amm -lbsdmalloc  
401.bzip2: -xprofile=collect:./feedback(pass 1)  
-xprofile=use:./feedback(pass 2) -fast -fma=fused  
-xpagesize=4M -xO4 -xchip=generic -xalias_level=strong
```

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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 -xO4 -xalias_level=std
-xprefetch=latx:0.5 -xunroll=2 -l12amm

429.mcf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -M /usr/lib/ld/map.bssalign -xipo=2
-xchip=generic -xprefetch_auto_type=indirect_array_access
-xprefetch=latx:0.1 -W2,-Apf:l1list=3 -W2,-Apf:notinrl1list
-Wc,-Qlp-prt=1 -Wc,-Qlp-prwt=3 -lfast -lbsdmalloc

445.gobmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -M /usr/lib/ld/map.bssalign -xalias_level=std
-xrestrict -xprefetch=latx:1 -xunroll=12 -lfast

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
-xunroll=12

458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xO4 -xinline= -xprefetch=no%auto
-xunroll=9 -l12amm

462.libquantum: -fast -fma=fused -xpagesize=4M -xalias_level=std -xipo=2
-xchip=generic -xprefetch=no%auto -xunroll=10 -lbsdmalloc

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xvector -xalias_level=std
-xprefetch=latx:1.2 -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 -lbsdmalloc

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 -xlinkopt -xprefetch=latx:0.1
-xunroll=10 -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
-xprefetch=no%auto -lfast
```

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 other inquiries, please contact webmaster@spec.org.

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