## SPEC® CINT2006 Result

**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

<table>
<thead>
<tr>
<th>Test</th>
<th>CPU</th>
<th>Memory</th>
<th>Disk Subsystem</th>
<th>Other Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>8</td>
<td>32 GB (8 x 4 GB, 2-way interleaved)</td>
<td>1 x 300 GB 10,000 RPM SAS</td>
<td>None</td>
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<td>401.bzip2</td>
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<td>403.gcc</td>
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<td>483.xalancbmk</td>
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</tbody>
</table>

### 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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**Standard Performance Evaluation Corporation**  
info@spec.org  
http://www.spec.org/
Oracle Corporation
SPARC Enterprise M3000

SPECint_rate2006 = 56.2
SPECint_rate_base2006 = 50.3

Results Table

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</table>

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 -ll2amm

Continued on next page
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SPARC Enterprise M3000

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

Test date: Feb-2011
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Software Availability: Sep-2010

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 -ll2amm -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 -ll2amm

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SPARC Enterprise M3000

SPEC_cint2006 = 56.2
SPECint_rate2006 = 50.3

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

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:llist=3 -W2,-Apf:noinnerllist
-W2,-Qlp-pwt=3 -W2,-Qlp-pwt=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
**Oracle Corporation**  
**SPARC Enterprise M3000**  

**SPECint_rate2006 = 56.2**  
**SPECint_rate_base2006 = 50.3**

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<tr>
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<td>Test sponsor:</td>
<td>Oracle Corporation</td>
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<td>Apr-2011</td>
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<td>Tested by:</td>
<td>Fujitsu</td>
<td>Software Availability:</td>
<td>Sep-2010</td>
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</tbody>
</table>

**Peak Optimization Flags (Continued)**

483.xalancbmk: -library=stlport4 -xprofile=collect:/feedback(pass 1)  
- xprofile=use:/feedback(pass 2) -fast -fma=fused  
- xsizesize=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  

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