



SPEC® CINT2006 Result

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Oracle Corporation SPARC Enterprise M3000

SPECint®2006 = 16.3
SPECint_base2006 = 14.6

CPU2006 license: 6

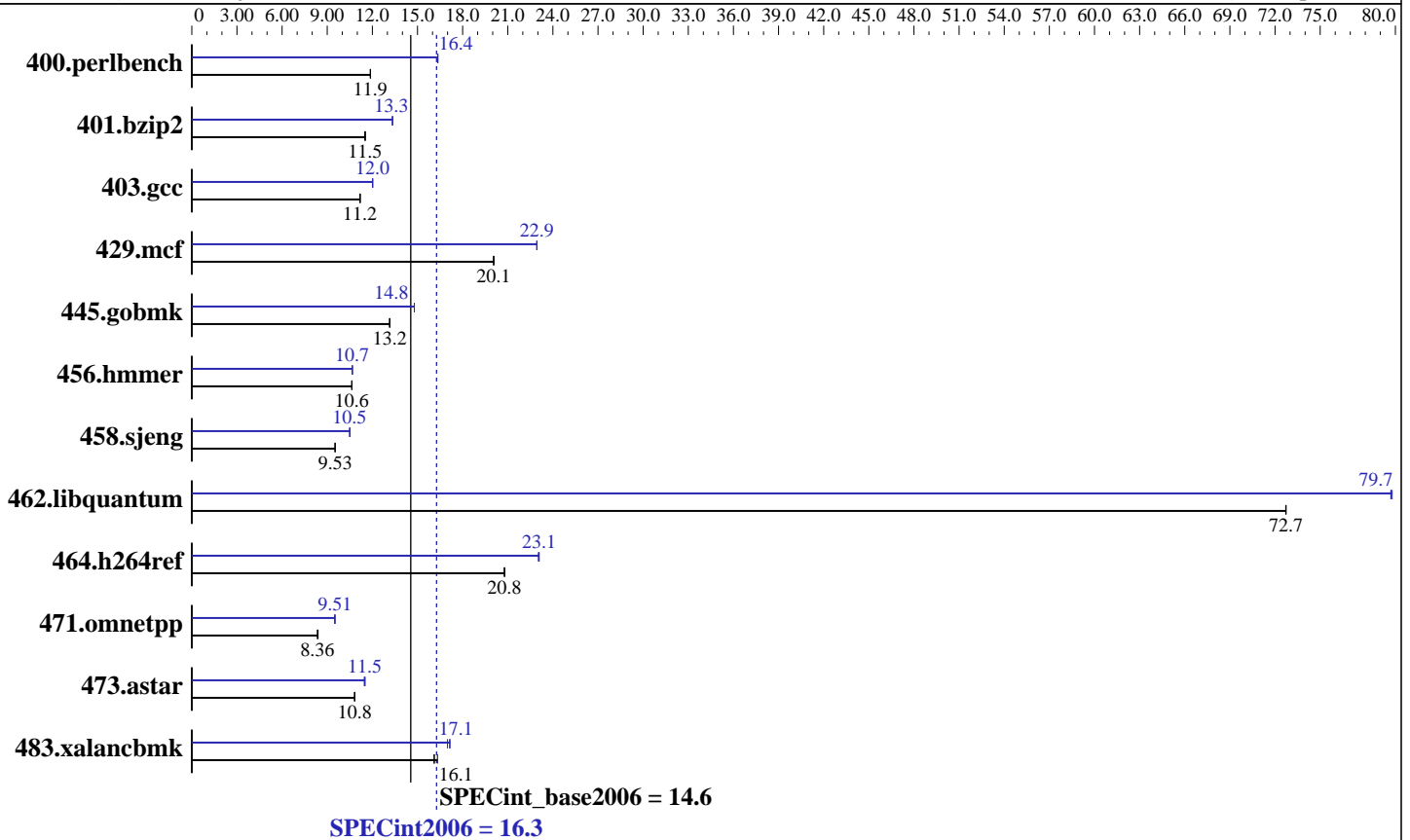
Test sponsor: Oracle Corporation

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: 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	823	11.9	823	11.9	824	11.9	597	16.4	598	16.3	597	16.4
401.bzip2	839	11.5	837	11.5	837	11.5	724	13.3	724	13.3	723	13.3
403.gcc	720	11.2	720	11.2	720	11.2	670	12.0	670	12.0	669	12.0
429.mcf	454	20.1	455	20.1	454	20.1	398	22.9	398	22.9	398	22.9
445.gobmk	798	13.2	798	13.2	797	13.2	709	14.8	709	14.8	709	14.8
456.hammer	877	10.6	877	10.6	877	10.6	875	10.7	875	10.7	874	10.7
458.sjeng	1270	9.53	1270	9.53	1271	9.52	1153	10.5	1153	10.5	1152	10.5
462.libquantum	285	72.7	285	72.7	285	72.7	260	79.8	260	79.7	260	79.7
464.h264ref	1065	20.8	1066	20.8	1064	20.8	959	23.1	961	23.0	959	23.1
471.omnetpp	748	8.36	749	8.35	745	8.39	657	9.52	657	9.51	658	9.50
473.astar	649	10.8	649	10.8	648	10.8	610	11.5	610	11.5	612	11.5
483.xalancbmk	428	16.1	423	16.3	429	16.1	403	17.1	406	17.0	402	17.2

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 -fma=fused -xipo=2 -xpagesize=4M
-xprefetch_auto_type=indirect_array_access -x04 -xalias_level=std
-xprefetch_level=2 -l12amm

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Base Optimization Flags (Continued)

C++ benchmarks:
-xdepend -library=stlport4 -M /usr/lib/ld/map.bssalign -fast
-fma=fused -xipo=2 -xpagesize=4M
-xprefetch_auto_type=indirect_array_access -xalias_level=compatible
-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
-xchip=generic -xvector -xalias_level=std -xrestrict -Xc
-xprefetch=no%auto -lfast
401.bzip2: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xchip=generic -xalias_level=strong
-xprefetch_auto_type=indirect_array_access -lfast

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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=1 -xchip=generic -xalias_level=std
-xunroll=7 -l12amm -lbsdmalloc

429.mcf: -fast -fma=fused -xpagesize=4M -M /usr/lib/ld/map.bssalign
-xipo=2 -xchip=generic -xlinkopt -xunroll=3
-W2,-Apf:l1list=3 -W2,-Apf:noinnerl1list -Wc,-Qlp-prt=1
-Wc,-Qlp-prwt=3 -xprefetch_auto_type=indirect_array_access
-xprefetch_level=2 -xprefetch=latx:0.5 -lfast

445.gobmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=std -xrestrict
-xprefetch=latx:0.5 -l12amm -lbsdmalloc

456.hmmcr: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=std -l12amm

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
-xlinkopt -xunroll=2
-xprefetch_auto_type=indirect_array_access

462.libquantum: -fast -fma=fused -xpagesize=4M -xalias_level=std -xipo=2
-xO4 -xlinkopt -xunroll=8 -xprefetch=latx:0.5 -lmopt

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xarch=sparcvis2 -xlinkopt
-xalias_level=std -xprefetch=latx:3 -l12amm

C++ benchmarks:

471.omnetpp: -xdepend -library=stlport4
-xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible -xipo=2
-Qoption cg -Qlp-av=0 -xunroll=2 -xprefetch=latx:6 -lfast
-lbsdmalloc

473.astar: -xdepend -library=stlport4
-xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible -xunroll=6
-xprefetch_auto_type=indirect_array_access -lfast
-lbsdmalloc

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Peak Optimization Flags (Continued)

```
483.xalancbmk: -xdepend -library=stlport4
-xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible -xipo=1 -xvector
-xunroll=8 -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 questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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