



SPEC® CINT2006 Result

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Sun Microsystems

SPECint®2006 = 14.8

Sun SPARC Enterprise M3000

SPECint_base2006 = 13.6

CPU2006 license: 6

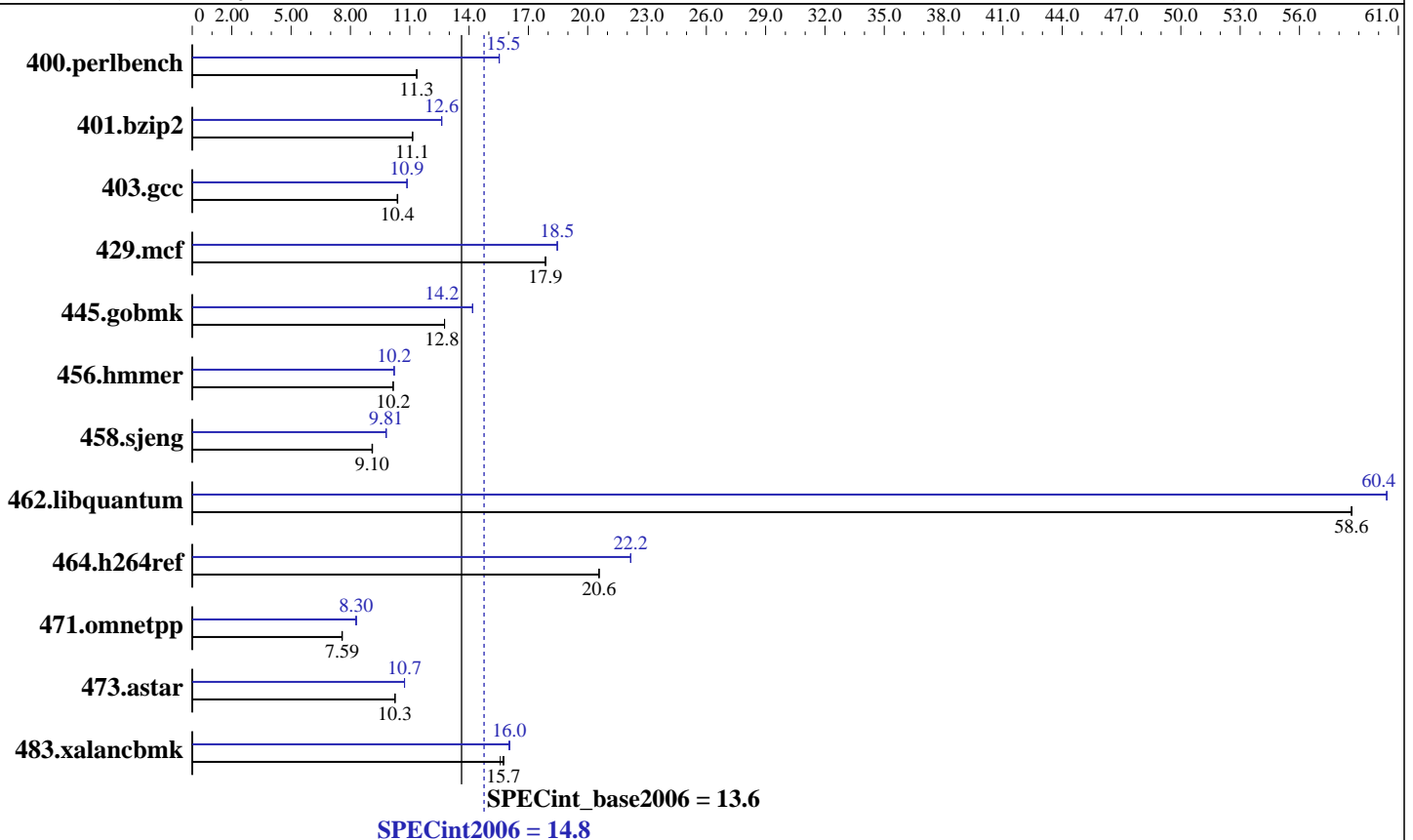
Test sponsor: Sun Microsystems

Tested by: Fujitsu

Test date: Oct-2009

Hardware Availability: Jan-2010

Software Availability: Oct-2009



Hardware

CPU Name: SPARC64 VII
 CPU Characteristics:
 CPU MHz: 2750
 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: 5 MB I+D on chip per chip
 L3 Cache: None
 Other Cache: None
 Memory: 16 GB (8 x 2 GB), 2-way interleaved
 Disk Subsystem: 1 x Seagate Savvio 10K.2 (146 GB 10,000 RPM SAS)
 Other Hardware: None

Software

Operating System: Solaris 10 10/09 with patch 119963-18
 Compiler: Sun Studio 12 Update 1
 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	861	11.3	861	11.3	860	11.4	629	15.5	629	15.5	629	15.5
401.bzip2	866	11.1	866	11.1	866	11.1	765	12.6	765	12.6	765	12.6
403.gcc	775	10.4	776	10.4	775	10.4	741	10.9	741	10.9	741	10.9
429.mcf	510	17.9	510	17.9	510	17.9	494	18.5	494	18.5	494	18.5
445.gobmk	822	12.8	822	12.8	822	12.8	740	14.2	740	14.2	740	14.2
456.hammer	918	10.2	918	10.2	918	10.2	913	10.2	914	10.2	913	10.2
458.sjeng	1327	9.12	1330	9.10	1330	9.10	1234	9.80	1233	9.81	1233	9.81
462.libquantum	353	58.6	353	58.6	353	58.7	343	60.4	343	60.4	343	60.4
464.h264ref	1076	20.6	1075	20.6	1076	20.6	998	22.2	998	22.2	998	22.2
471.omnetpp	825	7.57	824	7.59	824	7.59	755	8.27	753	8.30	753	8.30
473.astar	685	10.3	684	10.3	685	10.3	654	10.7	654	10.7	654	10.7
483.xalancbmk	439	15.7	438	15.8	443	15.6	430	16.1	431	16.0	430	16.0

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

Compiler Invocation Notes

Sun Studio compiler patches are available at
http://developers.sun.com/sunstudio/downloads/patches/ss12u1_patches.jsp

Submit Notes

The config file option 'submit' was used. Processes were assigned to specific processors using 'pbind' commands. The list of processors to use was provided in the 'BIND' variable, to generate the pbind commands. (For details, please see the config file.)

Operating System Notes

Shell Environments:

`ulimit -s 131072` was used to limit the space consumed by the stack.(making more space available for the heap)

System Tunables:

(/etc/system parameters)

`tune_t_fsflushr=10`

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

`autoup=600`

Causes pages older than the listed number of seconds to be written by fsflush.

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Operating System Notes (Continued)

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 Fujitsu SPARC Enterprise M3000 Server. Note that the Fujitsu SPARC Enterprise M3000 and Sun SPARC Enterprise M3000 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_level=2

-xalias_level=std -M /usr/lib/ld/map.bssalign -l12amm

C++ benchmarks:

-xdepend -library=stlport4 -fast -fma=fused -xipo=2 -xpagesize=4M

-xprefetch_level=2 -xalias_level=compatible -M /usr/lib/ld/map.bssalign

-lfast



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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

-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 -xalias_level=strong -xprefetch=latx:0.9

403.gcc: -xprofile=collect:./feedback(pass 1)

-xprofile=use:./feedback(pass 2) -fast -fma=fused

-xpagesize=4M -xipo=2 -xarch=sparcvis2 -xalias_level=std

-xprefetch_auto_type=indirect_array_access

-xprefetch_level=2 -l12amm

429.mcf: -xprofile=collect:./feedback(pass 1)

-xprofile=use:./feedback(pass 2) -fast -fma=fused

-xpagesize=4M -xipo=2 -xprefetch_level=3 -W2,-Apf:l1list=3

-W2,-Apf:noinnerl1list -Wc,-Qlp-prt=1 -Wc,-Qlp-prwt=3

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Peak Optimization Flags (Continued)

429.mcf (continued):
-lfast

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

456.hmmr: -fast -fma=fused -xpagesize=4M -xipo=2 -xalias_level=std
-xprefetch=latx:2.5 -l12amm

458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xprefetch=latx:0.5 -l12amm

462.libquantum: -fast -fma=fused -xipo=2 -xpagesize=4M -xprefetch_level=2
-xalias_level=std -xprefetch=latx:0.5
-M /usr/lib/ld/map.bssalign -l12amm

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xalias_level=std -xprefetch=no
-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
-xprefetch_level=2 -Qoption cg -Qlp-av=0
-xprefetch=latx:2.0 -lfast

473.astar: -xdepend -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 -xprefetch=no%auto
-lfast -lbsdmalloc

483.xalancbmk: -xdepend -library=stlport4 -fast -fma=fused -xpagesize=4M
-xalias_level=compatible -xipo=2 -xprefetch_level=3 -lfast

Peak Other Flags

C benchmarks:
-xjobs=2 -V -#

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Peak Other Flags (Continued)

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/Sun-Solaris-Studio12-12u1-and-gccfss4.2.r4.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-12u1-and-gccfss4.2.r4.xml>

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For other inquiries, please contact webmaster@spec.org.

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