



SPEC® CINT2006 Result

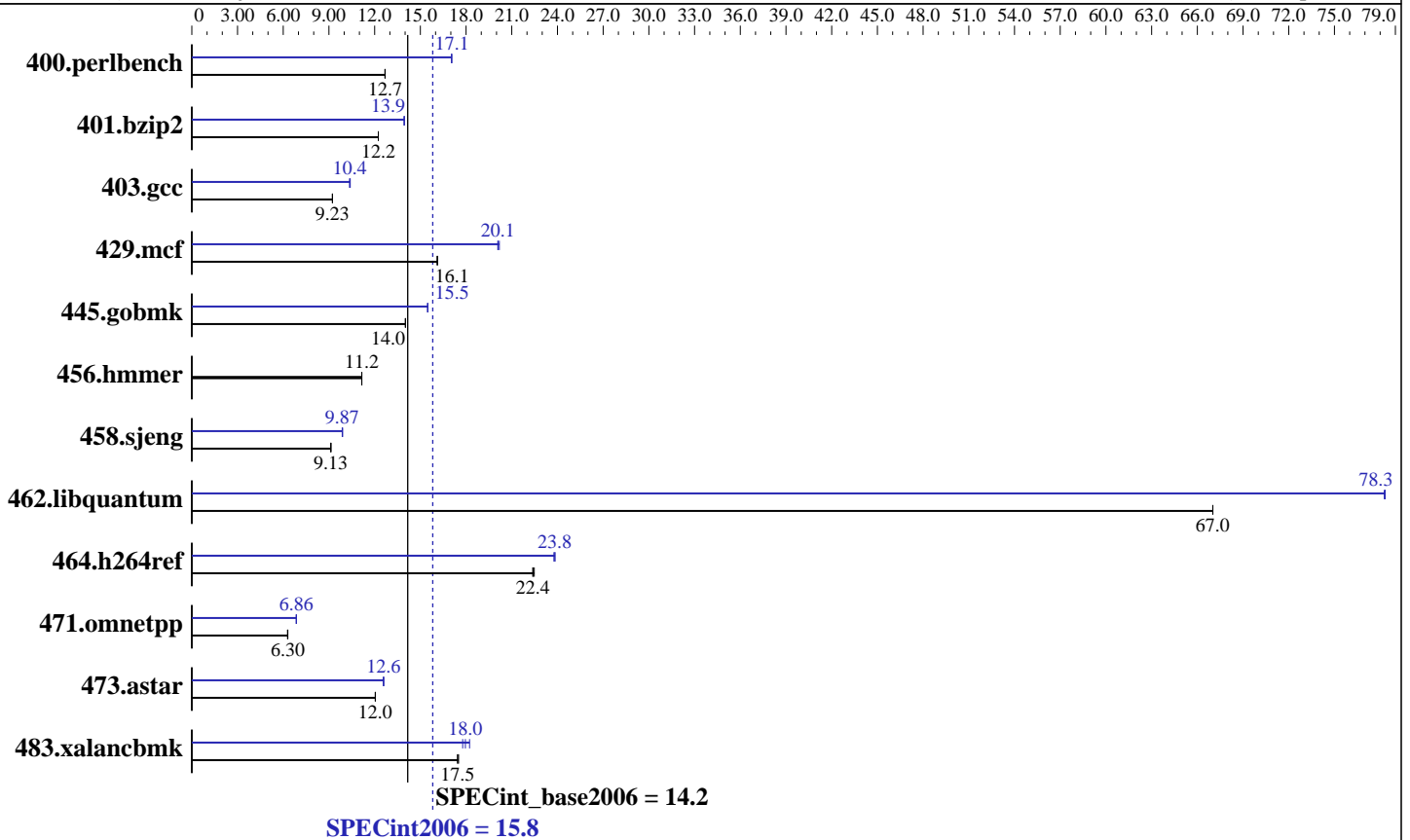
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Fujitsu SPARC Enterprise M8000

SPECint®2006 = 15.8
SPECint_base2006 = 14.2

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Oct-2010
Hardware Availability: Dec-2010
Software Availability: Sep-2010



Hardware

CPU Name: SPARC64 VII+
 CPU Characteristics:
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 64 cores, 16 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 to 4 CMUs; each CMU contains 2 or 4 CPU chips
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 12 MB I+D on chip per chip
 L3 Cache: None
 Other Cache: None
 Memory: 512 GB (128 x 4 GB, 8-way interleaved)
 Disk Subsystem: 4 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: zfs
 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	770	12.7	771	12.7	770	12.7	573	17.1	573	17.0	573	17.1
401.bzip2	788	12.2	788	12.2	788	12.2	692	13.9	692	13.9	692	13.9
403.gcc	872	9.23	872	9.23	872	9.23	777	10.4	774	10.4	777	10.4
429.mcf	566	16.1	566	16.1	566	16.1	452	20.2	454	20.1	454	20.1
445.gobmk	748	14.0	748	14.0	748	14.0	678	15.5	678	15.5	678	15.5
456.hammer	836	11.2	836	11.2	836	11.2	836	11.2	836	11.2	836	11.2
458.sjeng	1327	9.12	1326	9.13	1326	9.13	1226	9.87	1225	9.87	1222	9.90
462.libquantum	309	67.0	309	67.0	309	67.0	265	78.3	265	78.3	265	78.3
464.h264ref	989	22.4	988	22.4	985	22.5	929	23.8	931	23.8	928	23.8
471.omnetpp	992	6.30	992	6.30	995	6.28	911	6.86	911	6.86	911	6.86
473.astar	583	12.0	583	12.0	583	12.0	559	12.6	557	12.6	557	12.6
483.xalancbmk	395	17.5	396	17.4	394	17.5	388	17.8	384	18.0	378	18.2

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

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):

autoup=600

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

zfs:zfs_arc_max = 0x10000000

Control the amount of memory used by ZFS for caching

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Operating System Notes (Continued)

lpg_alloc_prefer=1
Prefer local pages, even if not easily available

Other System Settings:

The webconsole service was turned off using
svcadm disable webconsole

Platform Notes

Memory is 8-way interleaved by filling each CMU's slots with the same capacity DIMMs.

This result is measured on a SPARC Enterprise M8000 server from Fujitsu. The SPARC Enterprise M8000 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_level=1
-xalias_level=std -ll2amm

C++ benchmarks:
-xdepend -library=stlport4 -fast -fma=fused -xipo=2 -xpagesize=4M
-xprefetch_level=2 -xalias_level=compatible -lfast



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Base Other Flags

C benchmarks:
-xjobs=16 -V -#
C++ benchmarks:
-xjobs=16 -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 -xipo=2
-xalias_level=std -xprefetch_level=1 -xrestrict -lfast
401.bzip2: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-fma=fused -xalias_level=strong -xchip=generic
403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xalias_level=std -xO4 -xchip=generic -xunroll=7
-ll2amm
429.mcf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xprefetch=latx:0.5 -xprefetch_level=3
-xprefetch_auto_type=indirect_array_access -xchip=generic
-xlinkopt -xunroll=7 -W2,-Apf:l1list=3
-W2,-Apf:noinnerl1list -Wc,-Qlp-prt=1 -Wc,-Qlp-prwt=3
-lfast

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Peak Optimization Flags (Continued)

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

456.hmmr: basepeak = yes

458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xO4 -xlinkopt -xunroll=2

462.libquantum: -fast -xpagesize=4M -xalias_level=std -xipo=2
-xprefetch=no%auto -xO4 -xarch=generic -xcache=generic
-xlinkopt=2 -xunroll=8

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xalias_level=std -xprefetch=no%auto -xlinkopt=2
-ll2amm

C++ benchmarks:

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

473.astar: -xdepend -library=stlport4
-xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xalias_level=compatible -fma=fused -xipo=2
-xprefetch_level=2 -xprefetch=latx:0.5 -lfast

483.xalancbmk: -xdepend -library=stlport4 -fast -xpagesize=4M
-xalias_level=compatible -fma=fused -xipo=2
-xprefetch=no%auto -lfast

Peak Other Flags

C benchmarks:
-xjobs=16 -V -#

C++ benchmarks:
-xjobs=16 -verbose=diags,version



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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.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.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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