



SPEC® CINT2006 Result

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Fujitsu SPARC Enterprise M4000

SPECint®2006 = 14.8
SPECint_base2006 = 13.4

CPU2006 license: 19

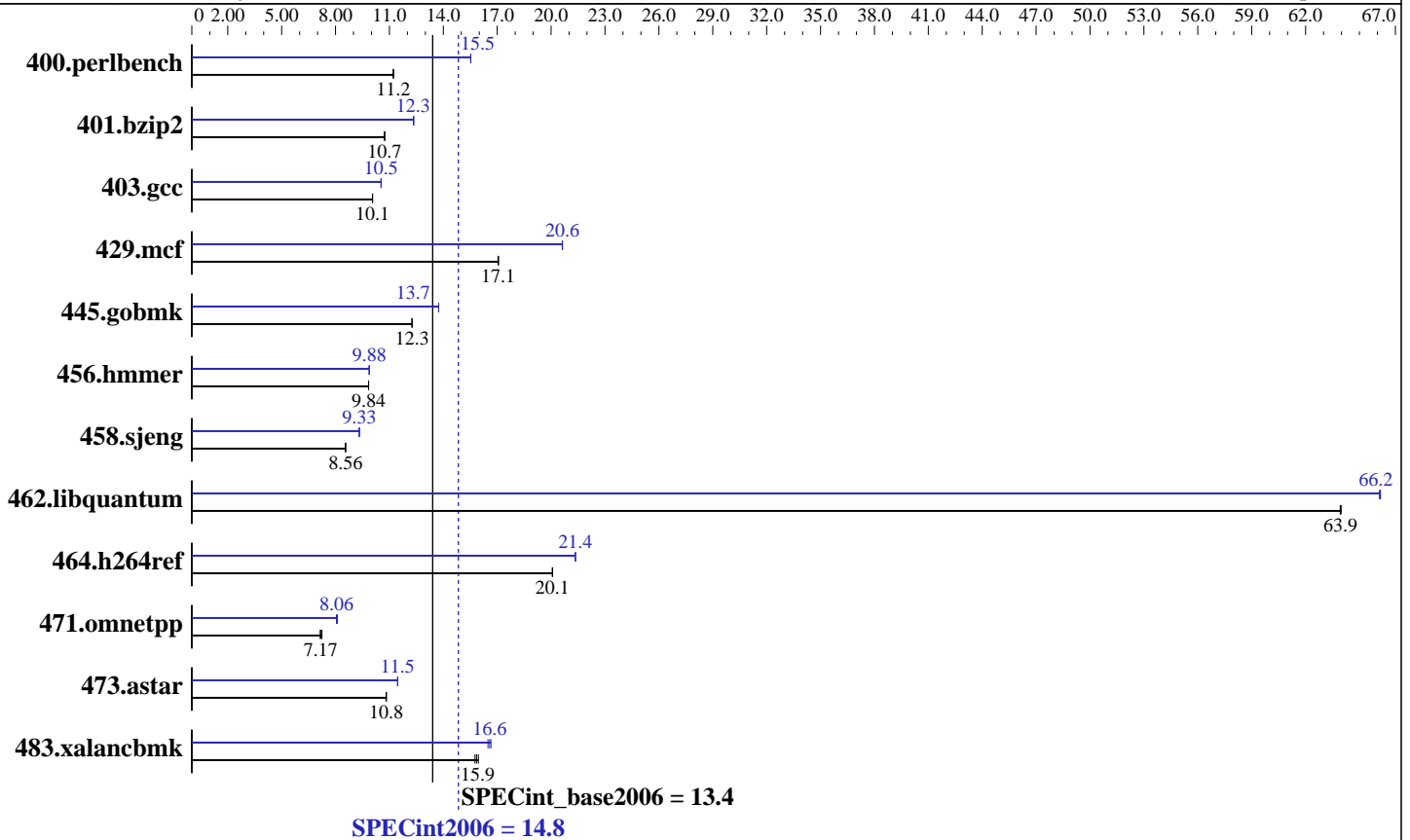
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Oct-2010

Hardware Availability: Dec-2010

Software Availability: Sep-2010



Hardware

CPU Name: SPARC64 VII+
 CPU Characteristics:
 CPU MHz: 2660
 FPU: Integrated
 CPU(s) enabled: 16 cores, 4 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 to 2 CPUMs; each CPUM contains 2 CPU chips
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 11 MB I+D on chip per chip
 L3 Cache: None
 Other Cache: None
 Memory: 128 GB (32 x 4 GB, 8-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	871	11.2	871	11.2	870	11.2	629	15.5	629	15.5	629	15.5
401.bzip2	899	10.7	899	10.7	899	10.7	781	12.4	782	12.3	782	12.3
403.gcc	800	10.1	800	10.1	800	10.1	764	10.5	765	10.5	764	10.5
429.mcf	534	17.1	534	17.1	535	17.1	442	20.6	442	20.6	442	20.6
445.gobmk	856	12.3	856	12.3	856	12.3	763	13.7	763	13.7	763	13.7
456.hammer	948	9.84	948	9.84	948	9.84	945	9.88	945	9.88	945	9.88
458.sjeng	1415	8.55	1414	8.56	1413	8.56	1297	9.33	1298	9.32	1297	9.33
462.libquantum	324	64.0	324	63.9	324	63.9	313	66.1	313	66.2	313	66.2
464.h264ref	1102	20.1	1102	20.1	1103	20.1	1036	21.4	1036	21.4	1036	21.4
471.omnetpp	874	7.15	863	7.24	871	7.17	775	8.06	776	8.05	771	8.10
473.astar	649	10.8	649	10.8	648	10.8	613	11.5	613	11.5	613	11.5
483.xalancbmk	435	15.9	438	15.8	433	16.0	416	16.6	414	16.7	419	16.5

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

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
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Operating System Notes (Continued)

page flush daemon, fsflush.
autoup=600
Causes pages older than the listed number of seconds to
be written by fsflush.

Other System Settings:

The webconsole service was turned off using svcadm disable webconsole.

Platform Notes

Memory is 8-way interleaved by filling all slots with
the same capacity DIMMs.

This result is measured on a SPARC Enterprise M4000 server from
Fujitsu. The SPARC Enterprise M4000 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=2
-xalias_level=std -M /usr/lib/ld/map.bssalign -ll2amm

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
-xarch=generic -lfast
401.bzip2: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=strong -xchip=generic
403.gcc: -xprofile=tcov:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xalias_level=std -xO4
-xchip=generic -xunroll=7 -l12amm
429.mcf: -fast -fma=fused -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

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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
-xprefetch=latx:0.5 -ll2amm

456.hmmer: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2

458.sjeng: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xO4 -xlinkopt -xunroll=2 -ll2amm

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

464.h264ref: -xprofile=tcov:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xalias_level=std -xlinkopt=2
-ll2amm

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 -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
-xarch=v8plusb -lfast -lbsdmalloc

483.xalancbmk: -xdepend -library=stlport4
-xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible -xipo=2
-xprefetch=no -lfast



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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.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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