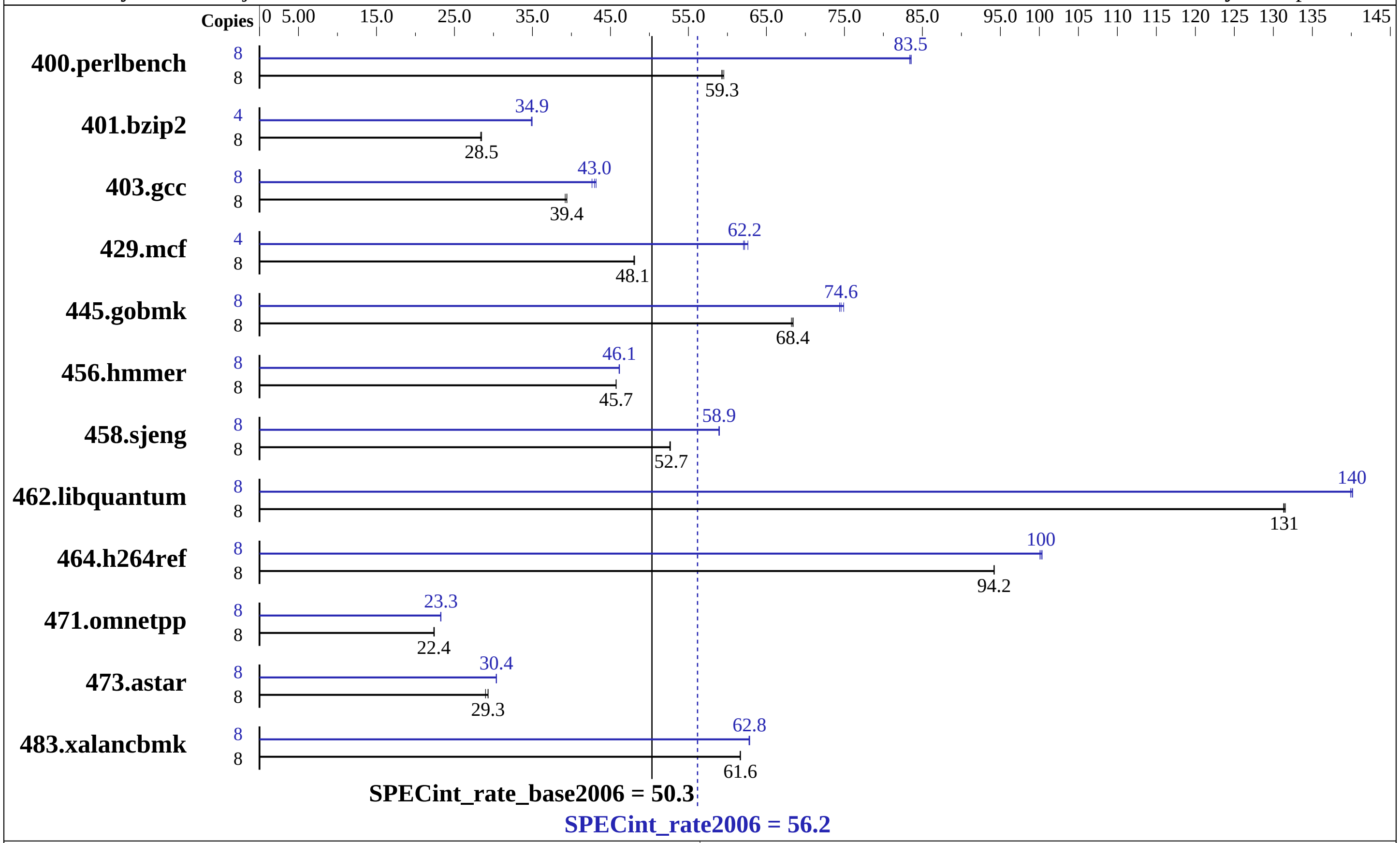
SPEC® CINT2006 Result

Fujitsu
SPARC Enterprise M3000

SPECint®_rate2006 = 56.2

SPECint_rate_base2006 = 50.3

CPU2006 license:	19	**Test date:**	Feb-2011
Test sponsor:	Fujitsu	**Hardware Availability:**	Apr-2011
Tested by:	Fujitsu	**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

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	1313	59.5	1319	59.3	**1317**	**59.3**	8	935	83.6	938	83.4	**936**	**83.5**
401.bzip2	8	2723	28.4	**2711**	**28.5**	2710	28.5	4	1107	34.9	**1105**	**34.9**	1104	35.0
403.gcc	8	1634	39.4	**1634**	**39.4**	1643	39.2	8	**1499**	**43.0**	1511	42.6	1492	43.2
429.mcf	8	1517	48.1	**1517**	**48.1**	1520	48.0	4	588	62.1	582	62.6	**586**	**62.2**
445.gobmk	8	1230	68.2	**1227**	**68.4**	1226	68.4	8	1120	74.9	**1125**	**74.6**	1128	74.4
456.hmmer	8	1632	45.7	1633	45.7	**1632**	**45.7**	8	**1617**	**46.1**	1617	46.2	1619	46.1
458.sjeng	8	1837	52.7	1840	52.6	**1838**	**52.7**	8	1641	59.0	**1642**	**58.9**	1643	58.9
462.libquantum	8	**1261**	**131**	1262	131	1260	132	8	1183	140	1185	140	**1183**	**140**
464.h264ref	8	**1879**	**94.2**	1880	94.2	1879	94.2	8	**1767**	**100**	1764	100	1769	100
471.omnetpp	8	2230	22.4	**2235**	**22.4**	2238	22.3	8	2153	23.2	**2149**	**23.3**	2148	23.3
473.astar	8	1915	29.3	**1917**	**29.3**	1937	29.0	8	1851	30.3	1848	30.4	**1849**	**30.4**
483.xalancbmk	8	895	61.7	896	61.6	**895**	**61.6**	8	**878**	**62.8**	878	62.9	879	62.8

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

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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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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 -ll2amm

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 -Wc,-Qlp-prt=1 -Wc,-Qlp-prwt=3 -xunroll=5 -ll2amm

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 -ll2amm

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 -ll2amm

462.libquantum: -fast -fma=fused -xpagesize=4M -xalias_level=std -xipo=2 -xchip=generic -xprefetch_level=3 -xunroll=6 -lbsdmalloc -ll2amm

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

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

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Peak Optimization Flags (Continued)

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

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 19:13:09 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 12 April 2011.