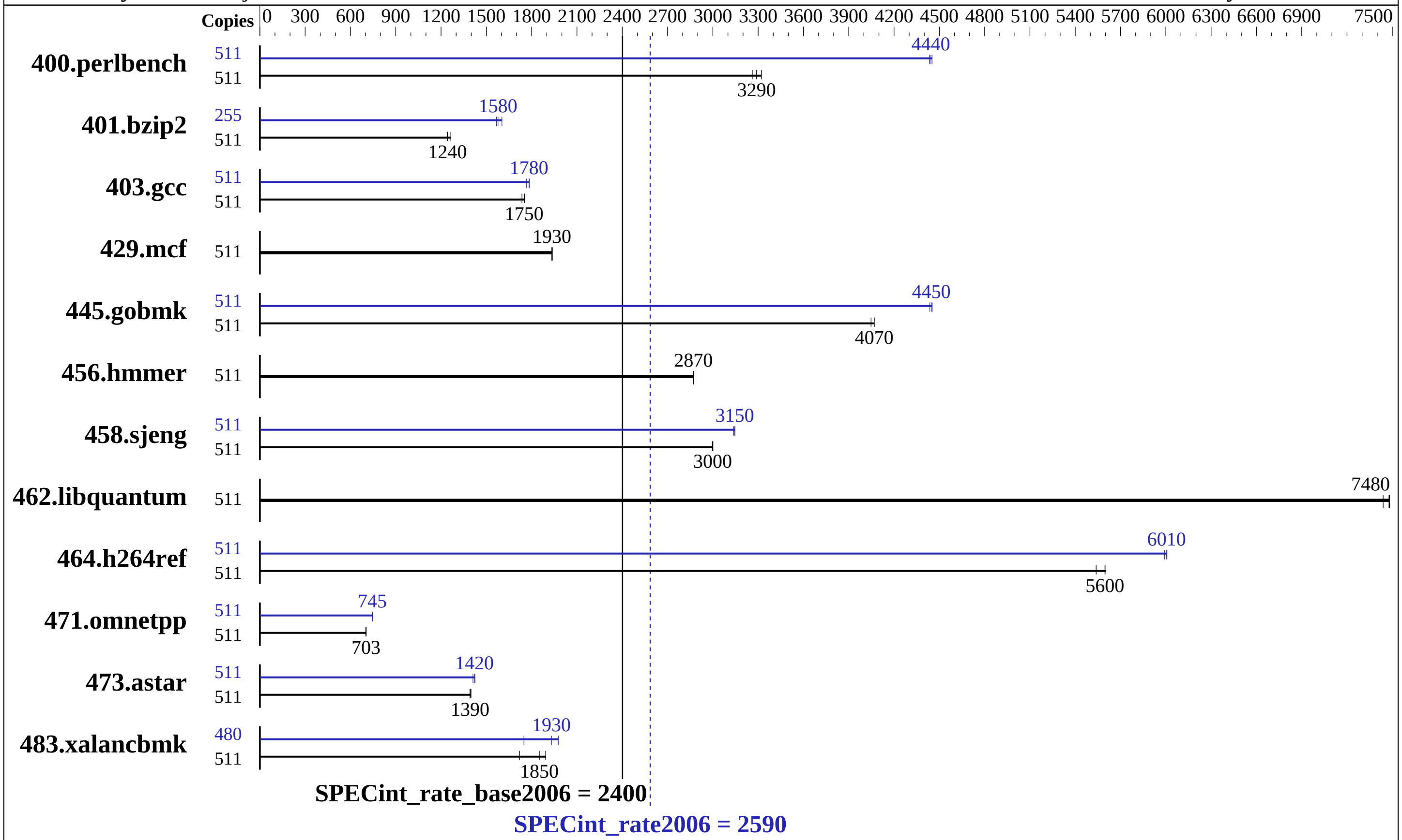
SPEC® CINT2006 Result

Sun Microsystems
Sun SPARC Enterprise M9000

SPECint®_rate2006 = 2590

SPECint_rate_base2006 = 2400

CPU2006 license: 6		**Test date:**	Aug-2009
Test sponsor:	Sun Microsystems	**Hardware Availability:**	Nov-2009
Tested by:	Fujitsu Limited	**Software Availability:**	Jun-2009



Hardware

CPU Name:	SPARC64 VII
CPU Characteristics:	
CPU MHz:	2880
FPU:	Integrated
CPU(s) enabled:	256 cores, 64 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1 to 16 CMUs; each CMU contains 2 or 4 CPU chips
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	6 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	1152 GB (448 x 2 GB + 64 x 4 GB), 8-way interleaved
Disk Subsystem:	1 x Seagate Savvio 10K.2 (146 GB 10,000 RPM SAS) 3400 GB RAID 0 Solaris Volume 24 x Seagate Savvio 10K.2 (146 GB 10,000 RPM SAS) Stripe interlace 2048 Kbytes
Other Hardware:	None

Software

Operating System:	Solaris 10 5/09 with patches 119963-13, 120753-06, 118683-03
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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	511	1529	3260	1503	3320	**1518**	**3290**	511	**1123**	**4440**	1121	4450	1126	4430
401.bzip2	511	3899	1260	3976	1240	**3966**	**1240**	255	1535	1600	**1560**	**1580**	1570	1570
403.gcc	511	2346	1750	**2349**	**1750**	2370	1740	511	2305	1780	2331	1760	**2307**	**1780**
429.mcf	511	**2409**	**1930**	2410	1930	2406	1940	511	**2409**	**1930**	2410	1930	2406	1940
445.gobmk	511	**1318**	**4070**	1324	4050	1317	4070	511	**1205**	**4450**	1208	4440	1204	4450
456.hmmer	511	1661	2870	1659	2870	**1660**	**2870**	511	1661	2870	1659	2870	**1660**	**2870**
458.sjeng	511	**2062**	**3000**	2063	3000	2061	3000	511	1966	3150	**1966**	**3150**	1970	3140
462.libquantum	511	**1416**	**7480**	1423	7440	1415	7480	511	**1416**	**7480**	1423	7440	1415	7480
464.h264ref	511	2042	5540	2018	5600	**2020**	**5600**	511	1882	6010	1887	5990	**1883**	**6010**
471.omnetpp	511	4554	701	4534	704	**4543**	**703**	511	4284	745	4294	744	**4286**	**745**
473.astar	511	2565	1400	**2576**	**1390**	2578	1390	511	2518	1420	**2523**	**1420**	2541	1410
483.xalancbmk	511	**1905**	**1850**	1863	1890	2050	1720	480	1676	1980	1894	1750	**1715**	**1930**

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)

    autoup=300
       Causes pages older than the listed number of seconds to
       be written by fsflush.
    bufhwm=40000000
       Memory byte limit for caching I/O buffers.
    lpg_alloc_prefer=1
```

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Operating System Notes (Continued)

```
      Set lgroup page allocation to strongly prefer local pages.

Other System Settings:

    The webconsole service was turned off using svcadm disable webconsole.

 The SPEC toolset was bound to processors 1-511 using processor sets:
       psrset -c 1-511
       psrset -e 1 ksh
```

Platform Notes

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

 This result is measured on a Fujitsu SPARC Enterprise M9000 Server.
 Note that the Fujitsu SPARC Enterprise M9000 and Sun SPARC Enterprise
 M9000 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=1 -xalias_level=compatible -ll2amm -lfast

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 -xpagesize=4M
-xalias_level=std -xrestrict -xprefetch=no -lfast -ll2amm

401.bzip2: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-fma=fused -xalias_level=strong

403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xalias_level=std -ll2amm

429.mcf: basepeak = yes

445.gobmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xalias_level=std -xrestrict -ll2amm

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Peak Optimization Flags (Continued)

456.hmmer: basepeak = yes

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

462.libquantum: basepeak = yes

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

C++ benchmarks:

471.omnetpp: -xdepend -library=stlport4
-xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xalias_level=compatible -ll2amm

473.astar: -xdepend -library=stlport4
-xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xalias_level=compatible -xprefetch=latx:3 -lfast -ll2amm

483.xalancbmk: -xdepend -library=stlport4
-xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xalias_level=compatible -lfast -ll2amm

Peak Other Flags

C benchmarks:
-xjobs=16 -V -#

C++ benchmarks:
-xjobs=16 -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

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

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