SPEC® CINT2006 Result

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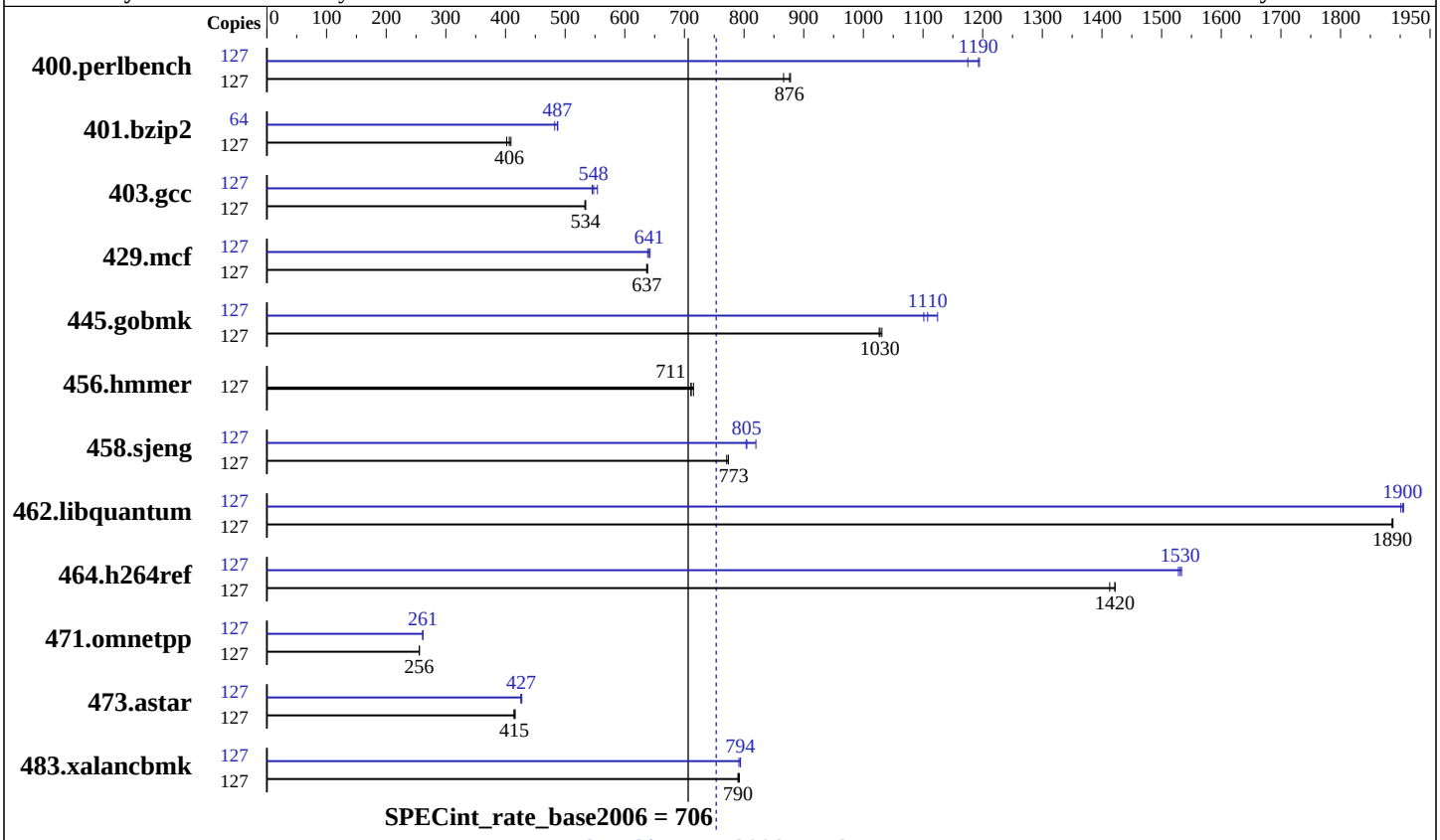
Sun Microsystems
Sun SPARC Enterprise M8000

SPECint®_rate2006 = 753

SPECint_rate_base2006 = 706

CPU2006 license: 6
Test sponsor: Sun Microsystems
Tested by: Sun Microsystems

Test date: Oct-2009
Hardware Availability: Nov-2009
Software Availability: Oct-2009



Hardware

CPU Name:	SPARC64 VII
CPU Characteristics:	
CPU MHz:	2880
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:	6 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:	886 GB mirrored partition on 12 x 146GB 15000 RPM SAS disks in each of 2 Sun StorageTek 2530 Array (24 total disk, 12 in each array)
Other Hardware:	None

Software

Operating System:	Solaris 10 10/09 (s10s_u8wos_06)
Compiler:	Sun Studio 12 Update 1 plus patches (see notes)
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	127	1432	866	**1416**	**876**	1413	878	127	1056	1180	**1040**	**1190**	1039	1190
401.bzip2	127	**3015**	**406**	2995	409	3048	402	64	1280	483	**1268**	**487**	1267	488
403.gcc	127	**1914**	**534**	1918	533	1913	534	127	**1867**	**548**	1875	545	1845	554
429.mcf	127	1819	637	**1817**	**637**	1815	638	127	1814	638	1803	642	**1807**	**641**
445.gobmk	127	1292	1030	**1296**	**1030**	1298	1030	127	1185	1120	1210	1100	**1203**	**1110**
456.hmmer	127	**1666**	**711**	1657	715	1666	711	127	**1666**	**711**	1657	715	1666	711
458.sjeng	127	1986	774	**1987**	**773**	1994	771	127	1913	803	**1910**	**805**	1874	820
462.libquantum	127	1395	1890	**1394**	**1890**	1394	1890	127	1384	1900	**1382**	**1900**	1381	1910
464.h264ref	127	1989	1410	1977	1420	**1977**	**1420**	127	1833	1530	1839	1530	**1835**	**1530**
471.omnetpp	127	**3107**	**256**	3105	256	3107	255	127	3035	262	**3036**	**261**	3037	261
473.astar	127	**2148**	**415**	2152	414	2142	416	127	**2089**	**427**	2094	426	2086	427
483.xalancbmk	127	1109	790	1106	792	**1109**	**790**	127	**1104**	**794**	1107	791	1104	794

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

Compiler Invocation Notes

```
Sun Studio 12 Update 1 was used, plus patch 119963-17

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

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

```
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 Sun SPARC Enterprise M8000
Server.  The Sun SPARC Enterprise M8000 and the Fujitsu
SPARC Enterprise M8000 are electrically equivalent.
```

General Notes

```
Environment variables set by runspec before the start of the run:
  OMP_NUM_THREADS = "128"
  SUNW_MP_PROCBIND = "true"
  SUNW_MP_THR_IDLE = "SPIN"
(Although these variables were set prior to the run
they did not affect performance, since the benchmarks
were compiled in serial mode.)
```

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 -xarch=sparcfmaf
-xalias_level=std -ll2amm

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

Base Other Flags

C benchmarks:
```
-xjobs=32 -V -#
```

C++ benchmarks:
```
-xjobs=32 -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
-M /usr/lib/ld/map.bssalign -fma=fused -xipo=2
-xalias_level=std -xrestrict -xprefetch=no%auto -Xc
-lfast

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
-xipo=2 -xalias_level=std -xprefetch=no -xarch=sparcfmaf
-fma=fused -ll2amm

429.mcf: -fast -xpagesize=4M -xipo=2 -xalias_level=std -xrestrict
-xprefetch=no -lfast

Continued on next page

Peak Optimization Flags (Continued)

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

456.hmmer: basepeak = yes

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

462.libquantum: -fast -xpagesize=4M -xipo=2 -xprefetch=no -fma=fused
-lbsdmalloc

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

C++ benchmarks:

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

473.astar: -xdepend -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xalias_level=compatible -library=stlport4
-M /usr/lib/ld/map.bssalign -fma=fused -xipo=2
-xprefetch=no%auto -lfast -lbsdmalloc

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

Peak Other Flags

C benchmarks:
-xjobs=32 -V -#

C++ benchmarks:
-xjobs=32 -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 questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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