SPEC® CINT2006 Result

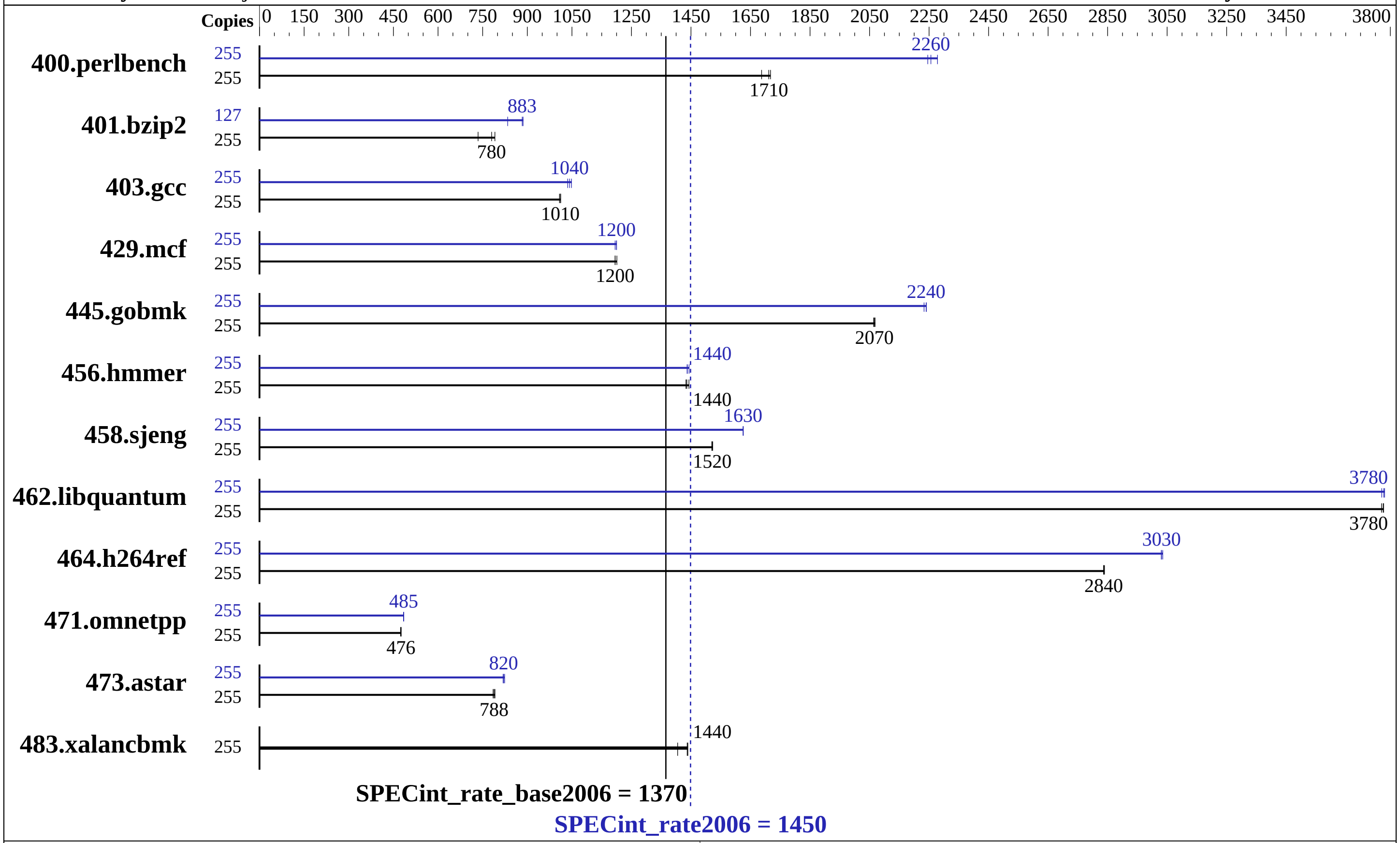
Fujitsu

Fujitsu SPARC Enterprise M9000

SPECint®_rate2006 = 1450

SPECint_rate_base2006 = 1370

CPU2006 license: 19		**Test date:**	Aug-2009
Test sponsor:	Fujitsu	**Hardware Availability:**	Nov-2009
Tested by:	Fujitsu	**Software Availability:**	Jun-2009



Hardware

CPU Name:	SPARC64 VII
CPU Characteristics:	
CPU MHz:	2880
FPU:	Integrated
CPU(s) enabled:	128 cores, 32 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1 to 8 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:	704 GB (160 x 2 GB + 96 x 4 GB), 8-way interleaved
Disk Subsystem:	1 x Seagate Savvio 10K.2 (146 GB 10,000 RPM SAS) 1700 GB RAID 0 Solaris Volume 12 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

Results Table

	Base							Peak						
Benchmark	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
400.perlbench	255	1476	1690	**1456**	**1710**	1451	1720	255	1109	2250	**1104**	**2260**	1093	2280
401.bzip2	255	3350	735	3111	791	**3155**	**780**	127	1469	834	1383	886	**1388**	**883**
403.gcc	255	2036	1010	**2030**	**1010**	2028	1010	255	**1970**	**1040**	1982	1040	1958	1050
429.mcf	255	1936	1200	1946	1190	**1946**	**1200**	255	1938	1200	**1939**	**1200**	1946	1200
445.gobmk	255	1296	2060	1293	2070	**1295**	**2070**	255	1198	2230	1194	2240	**1194**	**2240**
456.hmmer	255	1660	1430	1649	1440	**1657**	**1440**	255	**1655**	**1440**	1656	1440	1648	1440
458.sjeng	255	2030	1520	2026	1520	**2029**	**1520**	255	1899	1630	**1898**	**1630**	1898	1630
462.libquantum	255	**1399**	**3780**	1399	3780	1401	3770	255	1401	3770	1397	3780	**1398**	**3780**
464.h264ref	255	1989	2840	**1989**	**2840**	1987	2840	255	1862	3030	**1862**	**3030**	1859	3040
471.omnetpp	255	**3350**	**476**	3361	474	3348	476	255	**3289**	**485**	3293	484	3287	485
473.astar	255	2262	791	2280	785	**2271**	**788**	255	2186	819	2173	824	**2182**	**820**
483.xalancbmk	255	1252	1410	**1224**	**1440**	1222	1440	255	1252	1410	**1224**	**1440**	1222	1440

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 1-255
      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 -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: `-fast -xipo=2 -xpagesize=4M -xprefetch=no -xalias_level=std -fma=fused -lfast`

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

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

462.libquantum: -fast -xpagesize=4M -xipo=2 -xprefetch_level=1

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: basepeak = yes

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.

Tested with SPEC CPU2006 v1.1.
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