SPEC® CINT2006 Result

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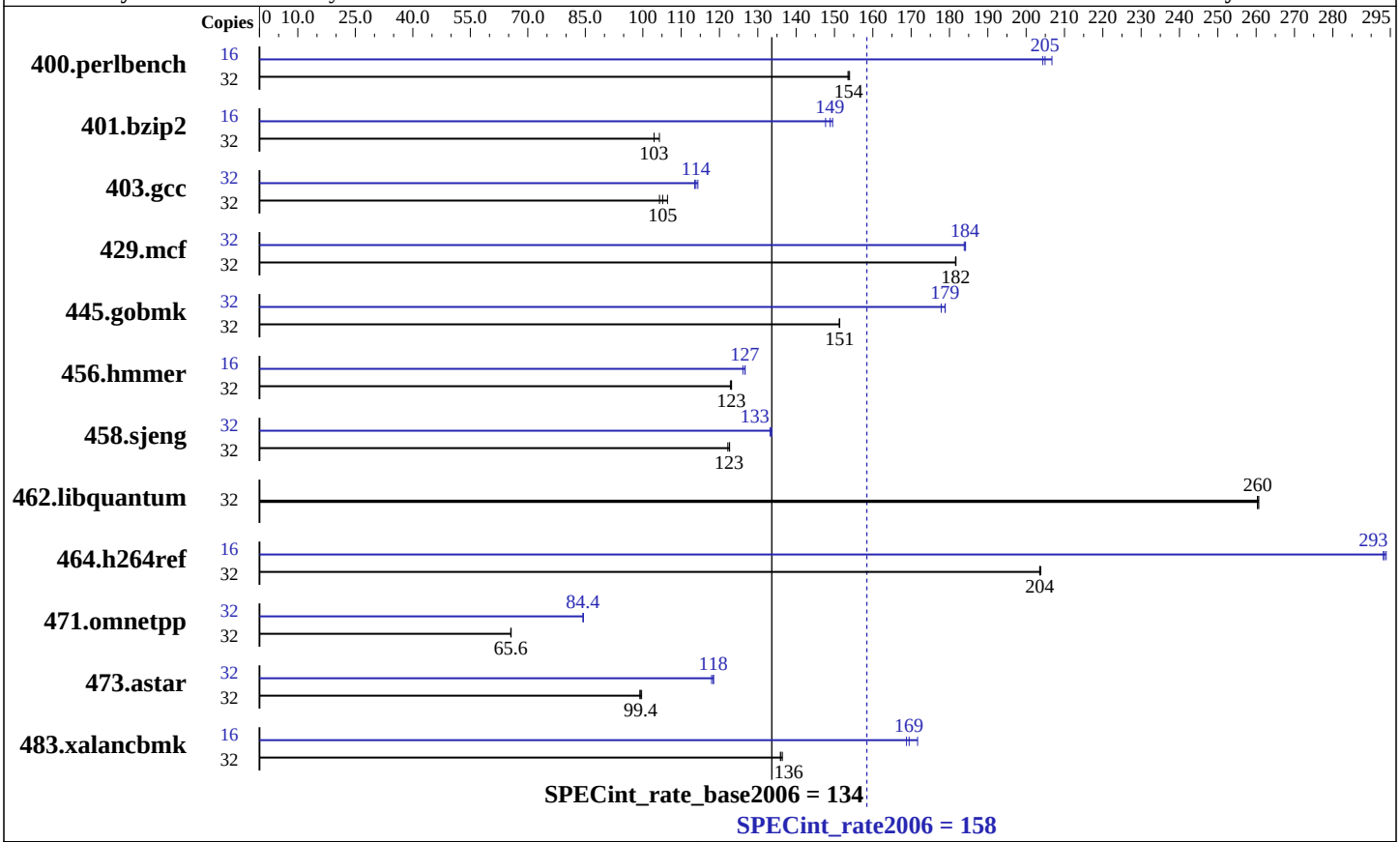
Sun Microsystems
Sun SPARC Enterprise M5000

SPECint®_rate2006 = 158

SPECint_rate_base2006 = 134

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

Test date: Apr-2007
Hardware Availability: Apr-2007
Software Availability: Jul-2007



Hardware

CPU Name:	SPARC64 VI
CPU Characteristics:	
CPU MHz:	2150
FPU:	Integrated
CPU(s) enabled:	16 cores, 8 chips, 2 cores/chip, 2 threads/core
CPU(s) orderable:	1 to 4 CPUM; each CPUM contains 2 CPU chips
Primary Cache:	128 KB I + 128 KB D on chip per core
Secondary Cache:	5 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	128 GB (64 x 2 GB)
Disk Subsystem:	73 GB FUJITSU MAY2073RC 10K RPM SAS
Other Hardware:	None

Software

Operating System:	Solaris 10 7/07 (build s10s_u4wos_04)
Compiler:	Sun Studio 12 (build 44.0)
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	32	2036	154	**2034**	**154**	2031	154	16	756	207	**763**	**205**	765	204
401.bzip2	32	2960	104	**3000**	**103**	3000	103	16	1046	148	**1037**	**149**	1033	150
403.gcc	32	2420	106	**2449**	**105**	2469	104	32	**2262**	**114**	2252	114	2269	114
429.mcf	32	1606	182	1607	182	**1607**	**182**	32	1587	184	**1586**	**184**	1584	184
445.gobmk	32	**2218**	**151**	2220	151	2218	151	32	1876	179	1887	178	**1877**	**179**
456.hmmer	32	2431	123	**2425**	**123**	2424	123	16	1178	127	**1179**	**127**	1184	126
458.sjeng	32	3169	122	**3159**	**123**	3157	123	32	2907	133	**2903**	**133**	2897	134
462.libquantum	32	2547	260	2543	261	**2546**	**260**	32	2547	260	2543	261	**2546**	**260**
464.h264ref	32	**3479**	**204**	3479	204	3475	204	16	**1207**	**293**	1205	294	1208	293
471.omnetpp	32	**3049**	**65.6**	3051	65.6	3046	65.7	32	**2369**	**84.4**	2367	84.5	2370	84.4
473.astar	32	**2259**	**99.4**	2253	99.7	2264	99.2	32	1905	118	1896	118	**1898**	**118**
483.xalancbmk	32	1625	136	**1623**	**136**	1619	136	16	643	172	654	169	**651**	**169**

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

Operating System Notes

```
Processes were bound to cores using "submit" and "pbind".

These shell commands request use of 4MB pages:
     export LD_PRELOAD=mpss.so.1
     export MPSSHEAP=4MB
     export MPSSSTACK=4MB

ulimit -s 131072 was used to limit the space
consumed by the stack (and therefore make more
space available to the heap).

The "webconsole" service was turned off using
    svcadm disable webconsole
```

Platform Notes

```
"CPUM" = CPU Module; each module holds two CPU chips.

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

This result was measured using a Sun SPARC Enterprise
M5000 Server.  Note that the Fujitsu SPARC Enterprise
M5000 and Sun SPARC Enterprise M5000 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 -xcache=128/64/2:5120/256/10 -xipo=2 -xpagesize=4M
-xprefetch_level=2 -lbsdmalloc

C++ benchmarks:
-xdepend -library=stlport4 -fast -fma=fused
-xcache=128/64/2:5120/256/10 -xipo=2 -xpagesize=4M -xprefetch_level=2
-lbsdmalloc

Base Other Flags

C benchmarks:
-xjobs=12 -V -#

C++ benchmarks:
-xjobs=12 -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
-xcache=128/64/2:5120/256/10 -xpagesize=4M
-xalias_level=std -Xc -xipo=2 -xrestrict -fma=fused
-xprefetch=latx:5 -lfast

401.bzip2: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xcache=128/64/2:5120/256/10 -xpagesize=4M
-xalias_level=strong -fma=fused -xprefetch=latx:5

403.gcc: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xcache=128/64/2:5120/256/10 -xpagesize=4M -xipo=2
-xalias_level=std -xprefetch_level=2 -xarch=v8plusb
-fma=fused -ll2amm

429.mcf: -fast -xcache=128/64/2:5120/256/10 -xpagesize=4M -xipo=2
-xprefetch_level=2 -xrestrict -xalias_level=std
-W2,-Apf:llist=3 -W2,-Apf:noinnerllist -xprefetch=latx:5
-lfast

445.gobmk: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xcache=128/64/2:5120/256/10 -xpagesize=4M
-xalias_level=std -xrestrict -fma=fused

456.hmmer: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xcache=128/64/2:5120/256/10 -xpagesize=4M -xipo=2
-fma=fused

458.sjeng: Same as 456.hmmer

462.libquantum: basepeak = yes

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xcache=128/64/2:5120/256/10 -xpagesize=4M -xipo=2
-xalias_level=std -xarch=v8plusb -ll2amm

Continued on next page

Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: -xdepend -library=stlport4
-xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xcache=128/64/2:5120/256/10 -xpagesize=4M
-xalias_level=compatible -xipo=2 -xprefetch_level=2
-Qoption cg -Qlp-av=0 -fma=fused -lfast

473.astar: -xdepend -library=stlport4 -fast
-xcache=128/64/2:5120/256/10 -xpagesize=4M
-xalias_level=compatible -xipo=2 -xprefetch_level=2
-fma=fused -xprefetch=latx:5 -lfast

483.xalancbmk: -xdepend -library=stlport4
-xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast
-xcache=128/64/2:5120/256/10 -xpagesize=4M
-xalias_level=compatible -xipo=2 -xprefetch_level=2
-fma=fused -xprefetch=latx:5 -lfast

Peak Other Flags

C benchmarks:
-xjobs=12 -V -#

C++ benchmarks:
-xjobs=12 -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-Studio12.20090714.02.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12.20090714.02.xml

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For other inquiries, please contact webmaster@spec.org.

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