SPEC® CINT2006 Result

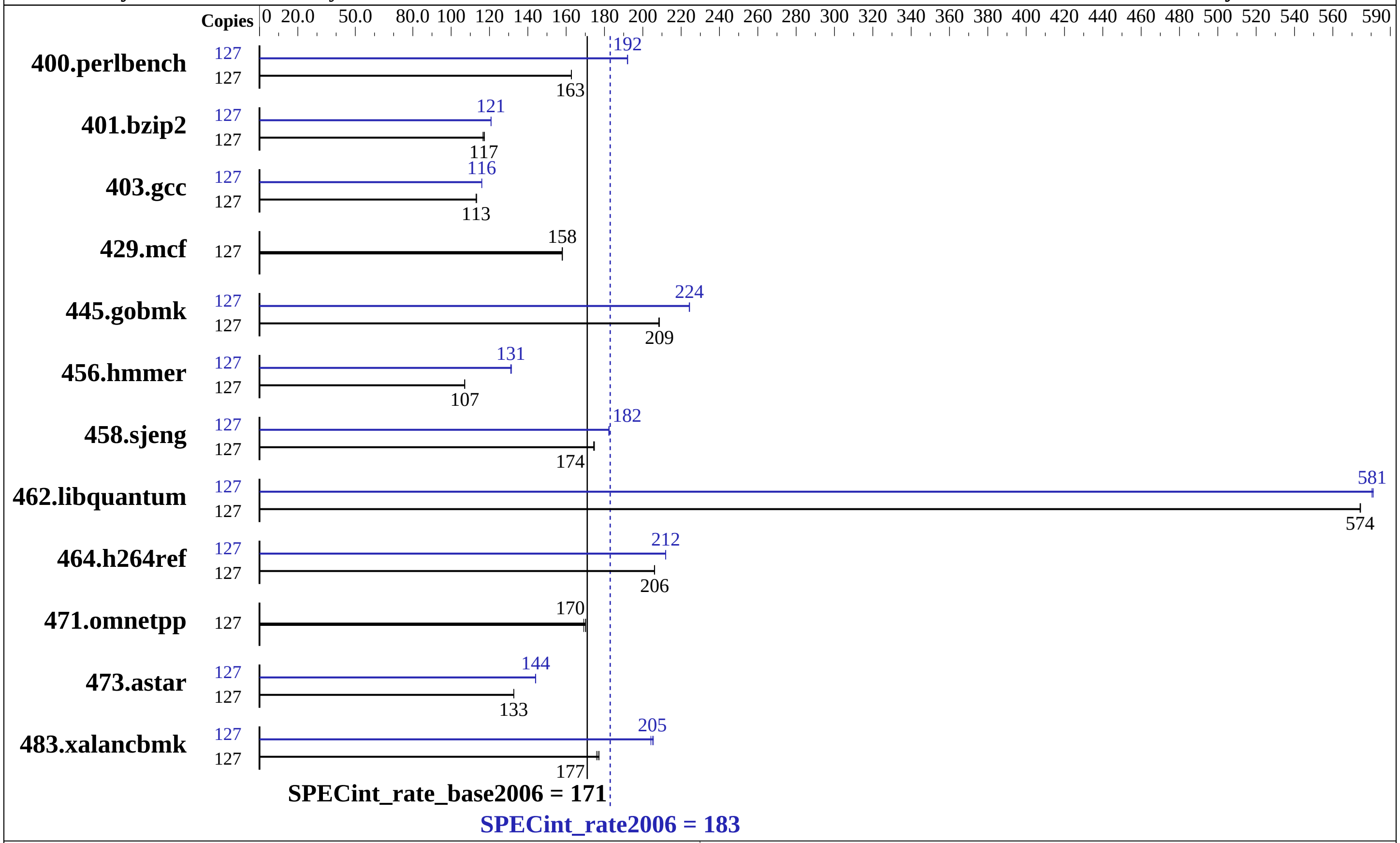
Fujitsu

Fujitsu SPARC Enterprise T5240

SPECint®_rate2006 = 183

SPECint_rate_base2006 = 171

CPU2006 license:	19	**Test date:**	Feb-2009
Test sponsor:	Fujitsu	**Hardware Availability:**	Jul-2009
Tested by:	Sun Microsystems	**Software Availability:**	Jun-2009



Hardware

CPU Name:	UltraSPARC T2 Plus
CPU Characteristics:	
CPU MHz:	1582
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 cores/chip, 8 threads/core
CPU(s) orderable:	2 chips
Primary Cache:	16 KB I + 8 KB D on chip per core
Secondary Cache:	4 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	128 GB (32 x 4 GB)
Disk Subsystem:	748 GB RAID 0 using Solaris Volume Manager on 8x 10K RPM SUN146G SAS blocksize 384 KB
Other Hardware:	None

Software

Operating System:	Solaris 10 10/08
Compiler:	Sun Studio 12 Update 1 and gccfss V4.2.1 (see additional detail below)
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	127	**7625**	**163**	7626	163	7625	163	127	6466	192	6457	192	**6462**	**192**
401.bzip2	127	10515	117	**10469**	**117**	10439	117	127	10149	121	**10148**	**121**	10140	121
403.gcc	127	**9046**	**113**	9051	113	9020	113	127	8816	116	8813	116	**8816**	**116**
429.mcf	127	7335	158	**7332**	**158**	7325	158	127	7335	158	**7332**	**158**	7325	158
445.gobmk	127	6385	209	6397	208	**6385**	**209**	127	5936	224	**5938**	**224**	5943	224
456.hmmer	127	**11063**	**107**	11077	107	11057	107	127	9010	132	9041	131	**9035**	**131**
458.sjeng	127	**8807**	**174**	8792	175	8815	174	127	8422	182	**8427**	**182**	8434	182
462.libquantum	127	**4583**	**574**	4583	574	4580	575	127	**4533**	**581**	4534	580	4528	581
464.h264ref	127	13643	206	**13632**	**206**	13629	206	127	13261	212	13260	212	**13261**	**212**
471.omnetpp	127	**4668**	**170**	4692	169	4663	170	127	**4668**	**170**	4692	169	4663	170
473.astar	127	6722	133	**6722**	**133**	6719	133	127	6193	144	**6186**	**144**	6184	144
483.xalancbmk	127	**4962**	**177**	4945	177	4983	176	127	4292	204	**4275**	**205**	4264	206

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

Compiler Invocation Notes

```
This result was measured with pre-release build 36.0
of Sun Studio 12 Update 1

Peak also uses "GCC for SPARC Systems 4.2.1", which
combines gcc with the Sun Code Generator for SPARC
systems.  It is invoked as "gcc", and accepts source
code compatible with GCC 4.2.
For more information, including support, see
     http://cooltools.sunsource.net/gcc/
```

Submit Notes

```
A processor set was created using
  psrset -c 1-127
and the runspec process was placed into the set using
  psrset -e 1
The config file option 'submit' was used to select specific
processors within the set, along with the pbind command.
```

Operating System Notes

```
ulimit -s 131072 was used to allow the stack to grow
up to 131072 KB (aka 128 MB).  Note that saying "131072"
is preferable to "unlimited", because there is a tradeoff
```

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Operating System Notes (Continued)

```
between space for the stack vs. space for the heap.


/etc/system parameters
   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
   tune_t_fsflushr=10
      Controls how many seconds elapse between runs of the
      page flush daemon, fsflush.
   tsb_rss_factor=128
      Suggests that the the size of the TSB (Translation Storage Buffer)
      may be increased if it is more than 25% (128/512) full.  Doing so
      may reduce TSB traps, at the cost of additional kernel memory.

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

The system had 206 GB of swap space.
The ufs fragment size was set to 8192
```

Platform Notes

```
This result was measured on a Sun SPARC Enterprise T5240.
The Sun SPARC Enterprise T5240 and the Fujitsu SPARC
Enterprise T5240 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:
`-g -fast -xipo=2 -xpagesize=4M -xprefetch=no%auto -xalias_level=std -M /usr/lib/ld/map.bssalign`

C++ benchmarks:
`-g0 -library=stlport4 -fast -xipo=2 -xpagesize=4M -xprefetch=no%auto -xdepend -xalias_level=compatible -M /usr/lib/ld/map.bssalign`

Base Other Flags

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

C++ benchmarks:
`-xjobs=32 -verbose=diags,version`

Peak Compiler Invocation

C benchmarks (except as noted below):
`cc`

403.gcc: `gcc`

456.hmmer: `gcc`

C++ benchmarks:
`CC`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_SOLARIS_SPARC`
462.libquantum: `-DSPEC_CPU_SOLARIS`
483.xalancbmk: `-DSPEC_CPU_SOLARIS`

Peak Optimization Flags

C benchmarks:

400.perlbench: `-g -xprofile=collect:./feedback`(pass 1) `-xprofile=use:./feedback`(pass 2) `-fast -xpagesize=4M -xprefetch=no%auto -M /usr/lib/ld/map.bssalign -xalias_level=std -xipo=2 -Xc -xrestrict -lfast`

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Peak Optimization Flags (Continued)

401.bzip2: `-g -xprofile=collect:./feedback`(pass 1) `-xprofile=use:./feedback`(pass 2) `-fast -xpagesize=4M -M /usr/lib/ld/map.bssalign -xalias_level=strong`

403.gcc: `-xprofile=collect:./feedback`(pass 1) `-xprofile=use:./feedback`(pass 2) `-fast -xpagesize=4M -xprefetch=no%auto -Wl,-M,/usr/lib/ld/map.bssalign -xipo=2 -xalias_level=std`

429.mcf: `basepeak = yes`

445.gobmk: `-g -xprofile=collect:./feedback`(pass 1) `-xprofile=use:./feedback`(pass 2) `-fast -xpagesize=4M -xprefetch=no%auto -M /usr/lib/ld/map.bssalign -xalias_level=std -xrestrict`

456.hmmer: `-xprofile=collect:./feedback`(pass 1) `-xprofile=use:./feedback`(pass 2) `-fast -xpagesize=4M -Wl,-M,/usr/lib/ld/map.bssalign -xipo=2 -xalias_level=std`

458.sjeng: `-g -xprofile=collect:./feedback`(pass 1) `-xprofile=use:./feedback`(pass 2) `-fast -xpagesize=4M -xprefetch=no%auto -M /usr/lib/ld/map.bssalign -xipo=2`

462.libquantum: `-g -fast -xpagesize=4M -xprefetch_level=3 -xprefetch_auto_type=indirect_array_access -M /usr/lib/ld/map.bssalign -xipo=2 -xalias_level=std`

464.h264ref: `-g -xprofile=collect:./feedback`(pass 1) `-xprofile=use:./feedback`(pass 2) `-fast -xpagesize=4M -xprefetch=no%auto -M /usr/lib/ld/map.bssalign -xipo=2 -xalias_level=std`

C++ benchmarks:

471.omnetpp: `basepeak = yes`

473.astar: `-g0 -library=stlport4 -xprofile=collect:./feedback`(pass 1) `-xprofile=use:./feedback`(pass 2) `-fast -xpagesize_heap=4M -xpagesize_stack=64K -xprefetch=no%auto -xdepend -xalias_level=compatible -M /usr/lib/ld/map.bssalign -xipo=2 -xarch=v8plusb -lfast -lbsdmalloc`

483.xalancbmk: `-g0 -library=stlport4 -fast -xpagesize=4M -xprefetch=no%auto -xdepend -xalias_level=compatible -M /usr/lib/ld/map.bssalign -xipo=2 -lfast`

Peak Other Flags

C benchmarks (except as noted below):
`-xjobs=32 -V -#`

403.gcc: `-v`

456.hmmer: `-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.r3.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.r3.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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