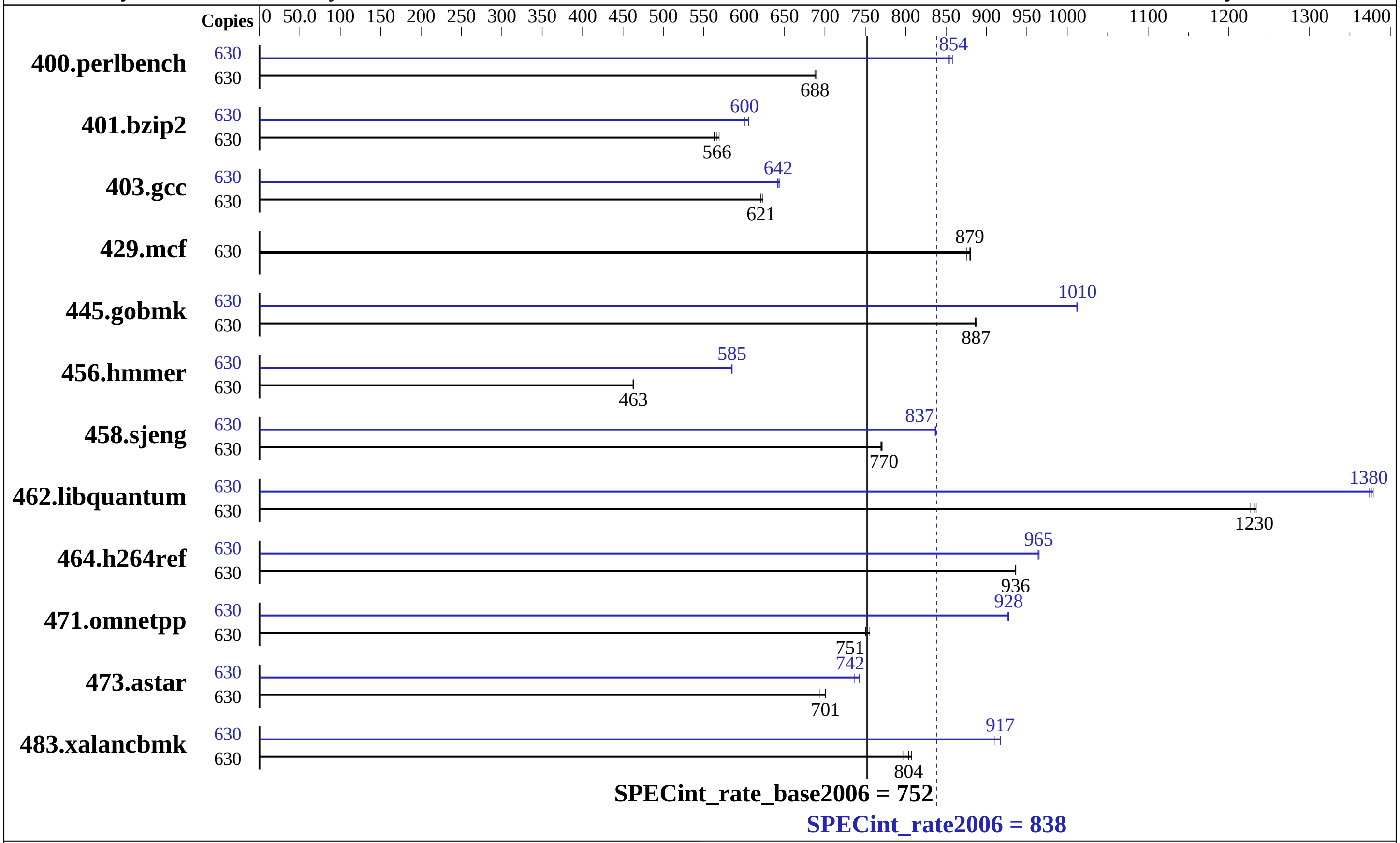
SPEC® CINT2006 Result

Sun Microsystems
Sun Blade 6000

SPECint®_rate2006 = 838

SPECint_rate_base2006 = 752

CPU2006 license: 6		**Test date:**	Mar-2008
Test sponsor:	Sun Microsystems	**Hardware Availability:**	Feb-2008
Tested by:	Sun Microsystems	**Software Availability:**	Feb-2008



Hardware

CPU Name:	UltraSPARC T2
CPU Characteristics:	
CPU MHz:	1417
FPU:	Integrated
CPU(s) enabled:	80 cores, 10 chips, 8 cores/chip, 8 threads/core
CPU(s) orderable:	1 to 10 Sun Blade T6320 Modules
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:	640 GB (10 x 16 x 4 GB)
Disk Subsystem:	975 GB RAID 5 via NFS
Other Hardware:	1 GbE network adapter on each blade.

Software

Operating System:	Solaris 10 8/07 + patches (see notes)
Compiler:	Sun Studio 12 (see patch information below) gccfss V4.2.0 (see additional detail below)
Auto Parallel:	No
File System:	NFSv3
System State:	Default
Base Pointers:	32-bit
Peak Pointers:	32-bit
Other Software:	None

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Results Table

	Base							Peak						
Benchmark	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
400.perlbench	630	**8950**	**688**	8934	689	8953	688	630	7211	854	7175	858	**7207**	**854**
401.bzip2	630	**10734**	**566**	10800	563	10684	569	630	10133	600	10039	606	**10124**	**600**
403.gcc	630	8138	623	**8168**	**621**	8177	620	630	**7897**	**642**	7905	642	7873	644
429.mcf	630	**6534**	**879**	6527	880	6565	875	630	**6534**	**879**	6527	880	6565	875
445.gobmk	630	7458	886	7439	888	**7449**	**887**	630	6538	1010	6526	1010	**6526**	**1010**
456.hmmer	630	**12697**	**463**	12687	463	12713	462	630	10044	585	10056	585	**10050**	**585**
458.sjeng	630	9889	771	**9897**	**770**	9919	769	630	9125	835	9103	837	**9106**	**837**
462.libquantum	630	10637	1230	10579	1230	**10599**	**1230**	630	**9483**	**1380**	9467	1380	9498	1370
464.h264ref	630	14888	936	**14894**	**936**	14897	936	630	14444	965	**14450**	**965**	14465	964
471.omnetpp	630	5247	750	5211	756	**5244**	**751**	630	4245	928	**4245**	**928**	4252	926
473.astar	630	6382	693	**6312**	**701**	6312	701	630	**5960**	**742**	6007	736	5954	743
483.xalancbmk	630	5384	807	**5410**	**804**	5458	796	630	4740	917	4779	910	**4740**	**917**

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/ss12_patches.jsp
The tested configuration included patch 124867-02, 124861-04, 124863-01

Peak also uses "GCC for SPARC Systems", 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/
```

Operating System Notes

```
The Sun Blade 6000 was tested with 10x T6320 Modules,
each containing 1x UltraSPARC T2 chip.

The Sun Blade T6320 is supported by Solaris 10 8/07
plus a factory-installed set of patches.  As tested, the
system used a 15 January 2008 pre-release build of the
patch set.

OS and test harness settings include:

- On each T6320 Module:
    - The "webconsole" service was turned off using
         svcadm disable webconsole
```

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Operating System Notes (Continued)

```
      - /etc/system settings:
          autoup = 600
          set bufhwm_pct=1
          set segmap_percent=2
          set tsb_rss_factor=128
          tune_t_fsflushr = 10
      - Process settings:
          ulimit -s 131072

  - The "submit" feature was used with a perl procedure, which did
    arithmetic to derive processor numbers from the SPEC copy number

  Additional details about the above points be found in the "Platform
  Settings" section of the associated flags file.
```

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=63 -V -#

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Base Other Flags (Continued)

C++ benchmarks:
`-xjobs=63 -verbose=diags,version`

Peak Compiler Invocation

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

403.gcc: `gcc`

456.hmmer: `gcc`

462.libquantum: `gcc`

C++ benchmarks (except as noted below):
`CC`

471.omnetpp: `g++`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_SOLARIS_SPARC`
462.libquantum: `-DSPEC_CPU_SOLARIS -DSPEC_CPU_NEED_COMPLEX_I`
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 -xalias_level=std -xipo=2 -Xc -xrestrict -lfast`

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

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

429.mcf: `basepeak = yes`

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Peak Optimization Flags (Continued)

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

456.hmmer: -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -xpagesize=4M -xipo=2 -xalias_level=std

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

462.libquantum: -fast -xipo=2

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

C++ benchmarks:

471.omnetpp: -xprofile=collect:./feedback(pass 1) -xprofile=use:./feedback(pass 2) -fast -xpagesize=4M -xipo=2 -xalias_level=std

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 -xipo=2 -xarch=v8plusb -lfast -lbsdmalloc

483.xalancbmk: -g0 -library=stlport4 -fast -xpagesize=4M -xprefetch=no%auto -xdepend -xalias_level=compatible -xipo=2 -lfast

Peak Other Flags

C benchmarks (except as noted below):
-xjobs=63 -V -#

403.gcc: -v

456.hmmer: -v

462.libquantum: -v

C++ benchmarks (except as noted below):
-xjobs=63 -verbose=diags,version

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Peak Other Flags (Continued)

471.omnetpp: `-v`

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-and-gccfss4.2-multinode.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-and-gccfss4.2-multinode.xml

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

Tested with SPEC CPU2006 v1.0.1.
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