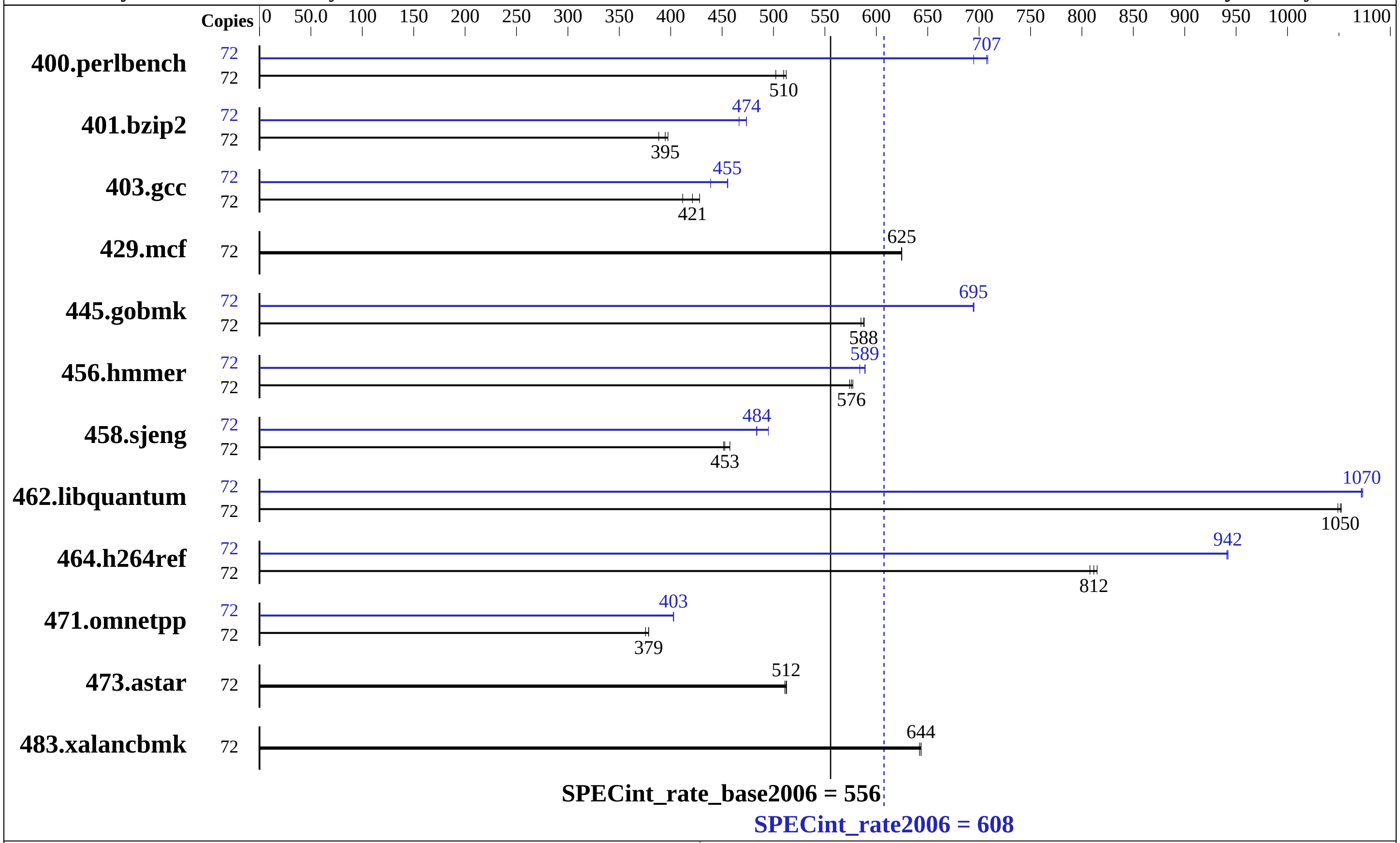
SPEC® CINT2006 Result

Sun Microsystems
Sun Fire E20K

SPECint®_rate2006 = 608

SPECint_rate_base2006 = 556

CPU2006 license: 6		**Test date:**	Mar-2007
Test sponsor:	Sun Microsystems	**Hardware Availability:**	Apr-2007
Tested by:	Sun Microsystems	**Software Availability:**	May-2007



Hardware

CPU Name:	UltraSPARC IV+
CPU Characteristics:	
CPU MHz:	1950
FPU:	Integrated
CPU(s) enabled:	72 cores, 36 chips, 2 cores/chip
CPU(s) orderable:	4-36 (order by number of chips, groups of 4)
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	2 MB I+D on chip per chip
L3 Cache:	32 MB I+D off chip per chip
Other Cache:	None
Memory:	160 GB, 8-way interleaved (128 x 1GB, 16 x 2GB)
Disk Subsystem:	System: Sun StorageTek D240 Media Tray (2x73GB) SPEC: Sun StorageTek 6140 (5x146GB 10K FC-AL RAID5)
Other Hardware:	None

Software

Operating System:	Solaris 10 11/06
Compiler:	Sun Studio 12 (pre-release build 43)
Auto Parallel:	No
File System:	ufs
System State:	Default
Base Pointers:	32-bit
Peak Pointers:	32-bit
Other Software:	None

Sun Microsystems
Sun Fire E20K

SPECint_rate2006 = 608

SPECint_rate_base2006 = 556

CPU2006 license: 6
Test sponsor: Sun Microsystems
Tested by: Sun Microsystems
Test date: Mar-2007
Hardware Availability: Apr-2007
Software Availability: May-2007

Results Table

	Base							Peak						
Benchmark	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	72	1401	502	**1380**	**510**	1373	512	72	1012	695	993	708	**995**	**707**
401.bzip2	72	1789	388	1749	397	**1760**	**395**	72	1489	467	1467	474	**1467**	**474**
403.gcc	72	1354	428	**1376**	**421**	1408	412	72	1272	456	1321	439	**1274**	**455**
429.mcf	72	1051	625	**1051**	**625**	1051	625	72	1051	625	**1051**	**625**	1051	625
445.gobmk	72	1291	585	1284	588	**1285**	**588**	72	**1087**	**695**	1088	694	1087	695
456.hmmer	72	1170	574	1164	577	**1167**	**576**	72	1140	589	1150	584	**1141**	**589**
458.sjeng	72	1930	451	1904	458	**1925**	**453**	72	1802	483	1760	495	**1800**	**484**
462.libquantum	72	1422	1050	1418	1050	**1419**	**1050**	72	**1391**	**1070**	1392	1070	1390	1070
464.h264ref	72	1972	808	1956	815	**1963**	**812**	72	**1692**	**942**	1693	941	1691	942
471.omnetpp	72	**1189**	**379**	1189	379	1198	376	72	1118	402	1117	403	**1117**	**403**
473.astar	72	989	511	**987**	**512**	986	513	72	989	511	**987**	**512**	986	513
483.xalancbmk	72	**772**	**644**	774	642	772	644	72	**772**	**644**	774	642	772	644

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" except
for peak runs of 403.gcc, 456.hmmer, and 483.xalancbmk.

"ulimit -s unlimited"
   Allows stack to grow until system limit.

/etc/system parameters

   tune_t_fsflushr=3
      Controls how many seconds elapse between runs of the
      page flush daemon, fsflush.
   autoup=1200
      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
   ts_dispatch_extended=0
      Selects default dispatch table, rather than large server table
```

Platform Notes

```
The tested system had 9 system boards.  The first 8
system boards were equipped with 16GB of memory; the last
```


Continued on next page

Platform Notes (Continued)

```
system board had 32GB.  All memory was 8-way interleaved.
```

Base Compiler Invocation

C benchmarks:
`/export/ptmp/keeper/build43.0/SUNWspro/bin/cc`

C++ benchmarks:
`/export/ptmp/keeper/build43.0/SUNWspro/bin/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 -xipo=2 -xpagesize=4M -xprefetch_level=2 -xalias_level=std`

C++ benchmarks:
`-library=stlport4 -xdepend -fast -xipo=2 -xpagesize=4M`
`-xprefetch_level=1 -xalias_level=compatible -lfast`

Base Other Flags

C benchmarks:
`-xjobs=24 -V`

C++ benchmarks:
`-xjobs=24 -verbose=version`

Peak Compiler Invocation

C benchmarks:
`/export/ptmp/keeper/build43.0/SUNWspro/bin/cc`

C++ benchmarks:
`/export/ptmp/keeper/build43.0/SUNWspro/bin/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 -Xc -xipo=2 -xrestrict -lfast

401.bzip2: -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
-xipo=2 -xalias_level=std -xprefetch_level=2

429.mcf: basepeak = yes

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

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

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

462.libquantum: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xprefetch_level=2 -xipo=2

464.h264ref: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xpagesize=4M
-xipo=2 -xalias_level=std -ll2amm

C++ benchmarks:

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

Continued on next page

Peak Optimization Flags (Continued)

473.astar: `basepeak = yes`

483.xalancbmk: `basepeak = yes`

Peak Other Flags

C benchmarks:
`-xjobs=24 -V`

C++ benchmarks:
`-xjobs=24 -verbose=version`

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12.20090714.01.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12.20090714.01.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.
Report generated on Tue Jul 22 11:56:52 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 17 April 2007.