SPEC® CINT2006 Result

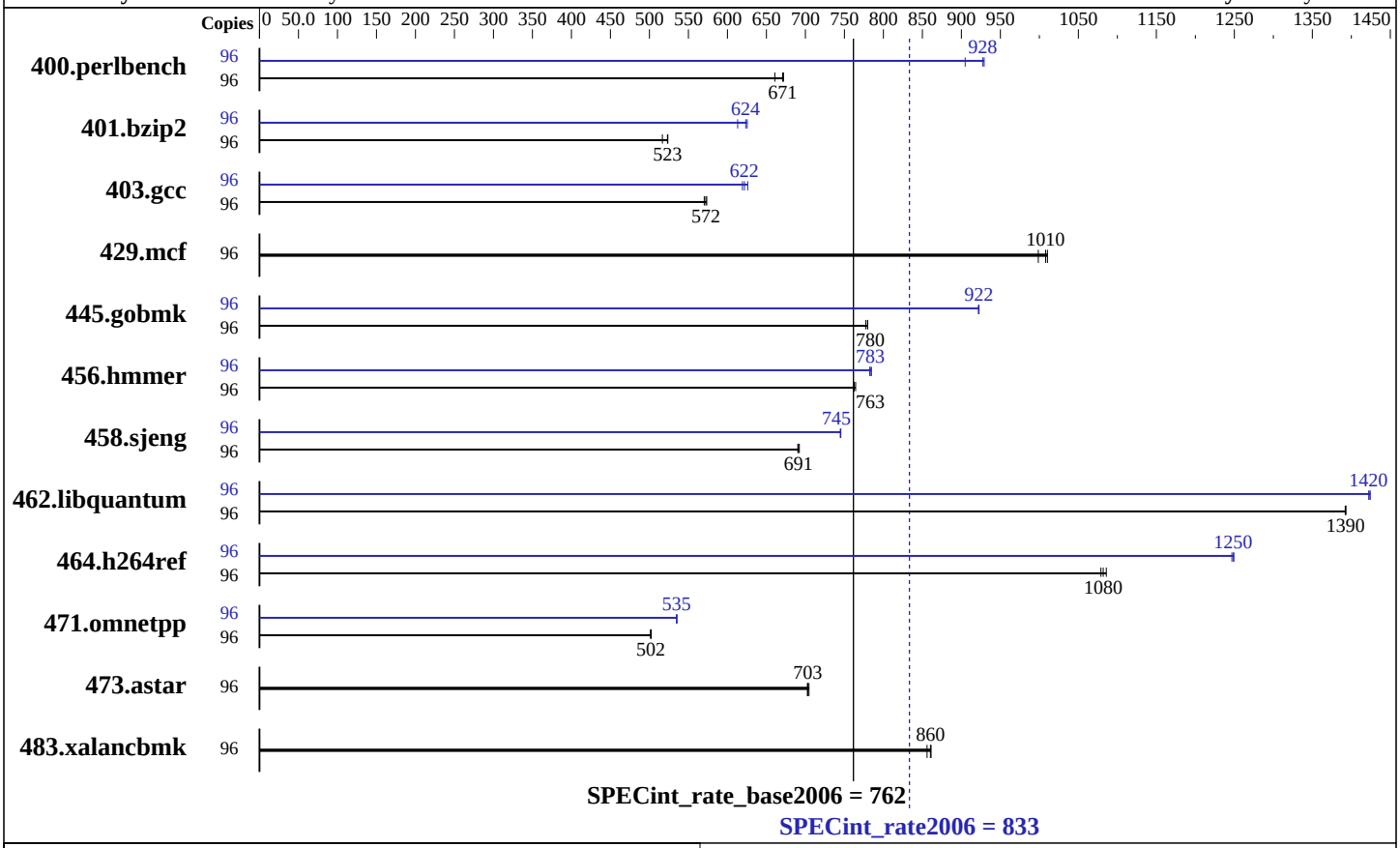
Sun Microsystems
Sun Fire E25K

SPECint®_rate2006 = 833

SPECint_rate_base2006 = 762

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

Test date: Mar-2007
Hardware Availability: Apr-2007
Software Availability: May-2007



Hardware

CPU Name:	UltraSPARC IV+
CPU Characteristics:	
CPU MHz:	1950
FPU:	Integrated
CPU(s) enabled:	96 cores, 48 chips, 2 cores/chip
CPU(s) orderable:	4-72 (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:	208 GB, 8-way interleaved (176 x 1 GB, 16 x 2 GB)
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

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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	96	1419	661	**1398**	**671**	1396	672	96	1037	905	**1011**	**928**	1009	929
401.bzip2	96	1793	517	1769	524	**1771**	**523**	96	1511	613	**1486**	**624**	1481	625
403.gcc	96	**1350**	**572**	1348	573	1355	570	96	**1243**	**622**	1234	626	1248	619
429.mcf	96	877	999	**869**	**1010**	867	1010	96	877	999	**869**	**1010**	867	1010
445.gobmk	96	**1292**	**780**	1295	777	1291	780	96	1092	922	1091	923	**1092**	**922**
456.hmmer	96	1175	762	**1174**	**763**	1172	764	96	1145	782	1141	785	**1144**	**783**
458.sjeng	96	**1681**	**691**	1683	690	1678	692	96	1560	745	**1559**	**745**	1558	745
462.libquantum	96	1429	1390	**1428**	**1390**	1428	1390	96	1398	1420	**1398**	**1420**	1397	1420
464.h264ref	96	**1964**	**1080**	1969	1080	1957	1090	96	1704	1250	**1701**	**1250**	1700	1250
471.omnetpp	96	1197	501	1194	502	**1195**	**502**	96	1122	535	**1121**	**535**	1121	535
473.astar	96	**959**	**703**	956	705	959	703	96	**959**	**703**	956	705	959	703
483.xalancbmk	96	774	856	769	861	**770**	**860**	96	774	856	769	861	**770**	**860**

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 12 system boards.  The first 11
system boards were equipped with 16GB of memory; the last
```

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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

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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.

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