SPEC® CINT2006 Result

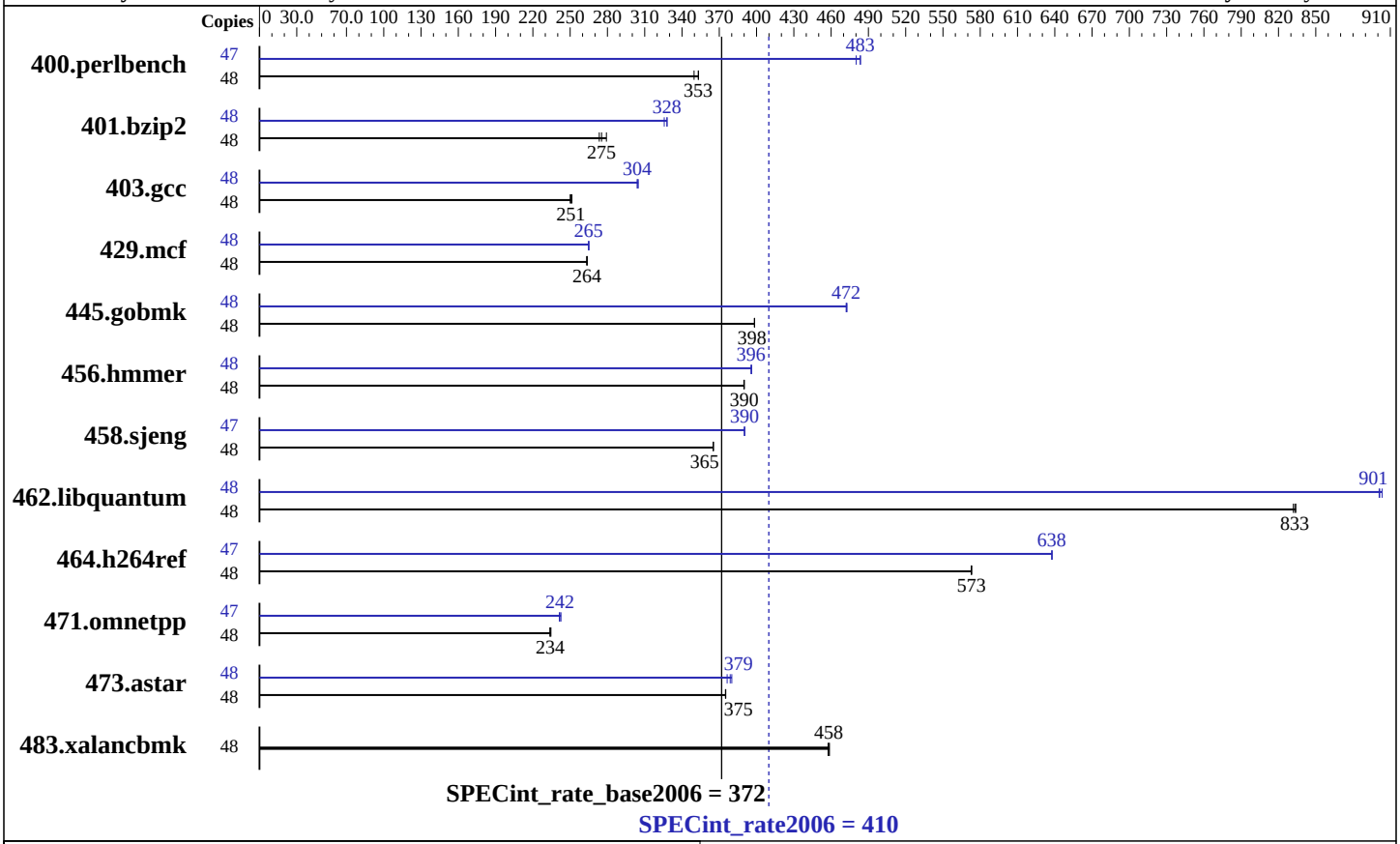
Sun Microsystems
Sun Fire E6900

SPECint®_rate2006 = 410

SPECint_rate_base2006 = 372

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:	48 cores, 24 chips, 2 cores/chip
CPU(s) orderable:	4, 8, 12, 16, 20, 24
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:	96 GB, 8-way interleaved (96 x 1 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	48	1341	350	1327	353	**1328**	**353**	47	956	480	**950**	**483**	949	484
401.bzip2	48	1694	273	**1683**	**275**	1659	279	48	1422	326	**1413**	**328**	1412	328
403.gcc	48	**1541**	**251**	1537	251	1545	250	48	**1271**	**304**	1271	304	1268	305
429.mcf	48	**1661**	**264**	1660	264	1663	263	48	**1652**	**265**	1654	265	1652	265
445.gobmk	48	1264	398	**1264**	**398**	1264	398	48	1065	473	1066	472	**1066**	**472**
456.hmmer	48	**1148**	**390**	1148	390	1149	390	48	**1132**	**396**	1131	396	1132	396
458.sjeng	48	**1590**	**365**	1590	365	1591	365	47	1457	390	1457	390	**1457**	**390**
462.libquantum	48	1193	834	1195	832	**1194**	**833**	48	**1103**	**901**	1104	901	1101	903
464.h264ref	48	1853	573	**1854**	**573**	1854	573	47	**1631**	**638**	1631	638	1631	638
471.omnetpp	48	1284	234	**1282**	**234**	1279	235	47	1217	241	**1215**	**242**	1211	243
473.astar	48	898	375	**898**	**375**	899	375	48	895	376	887	380	**890**	**379**
483.xalancbmk	48	724	458	722	459	**723**	**458**	48	724	458	722	459	**723**	**458**

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=900
      Causes pages older than the listed number of seconds to
      be written by fsflush.
   bufhwm=3000
      Sets a memory byte limit for caching I/O buffers.
   segmap_percent=1
      Sets the maximum percent of memory for file system cache.
```

Base Compiler Invocation

C benchmarks:

```
/export/ptmp/keeper/build43.0/SUNWspro/bin/cc
```

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Base Compiler Invocation (Continued)

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

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Peak Portability Flags (Continued)

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: -fast -xpagesize=4M -xprefetch_level=2 -xipo=2 -xrestrict
-xalias_level=std -lfast

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: `-library=stlport4 -xdepend -fast -xpagesize=4M -xipo=2 -xprefetch_level=2 -xprefetch_auto_type=indirect_array_access -xalias_level=compatible -xrestrict -lfast`

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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